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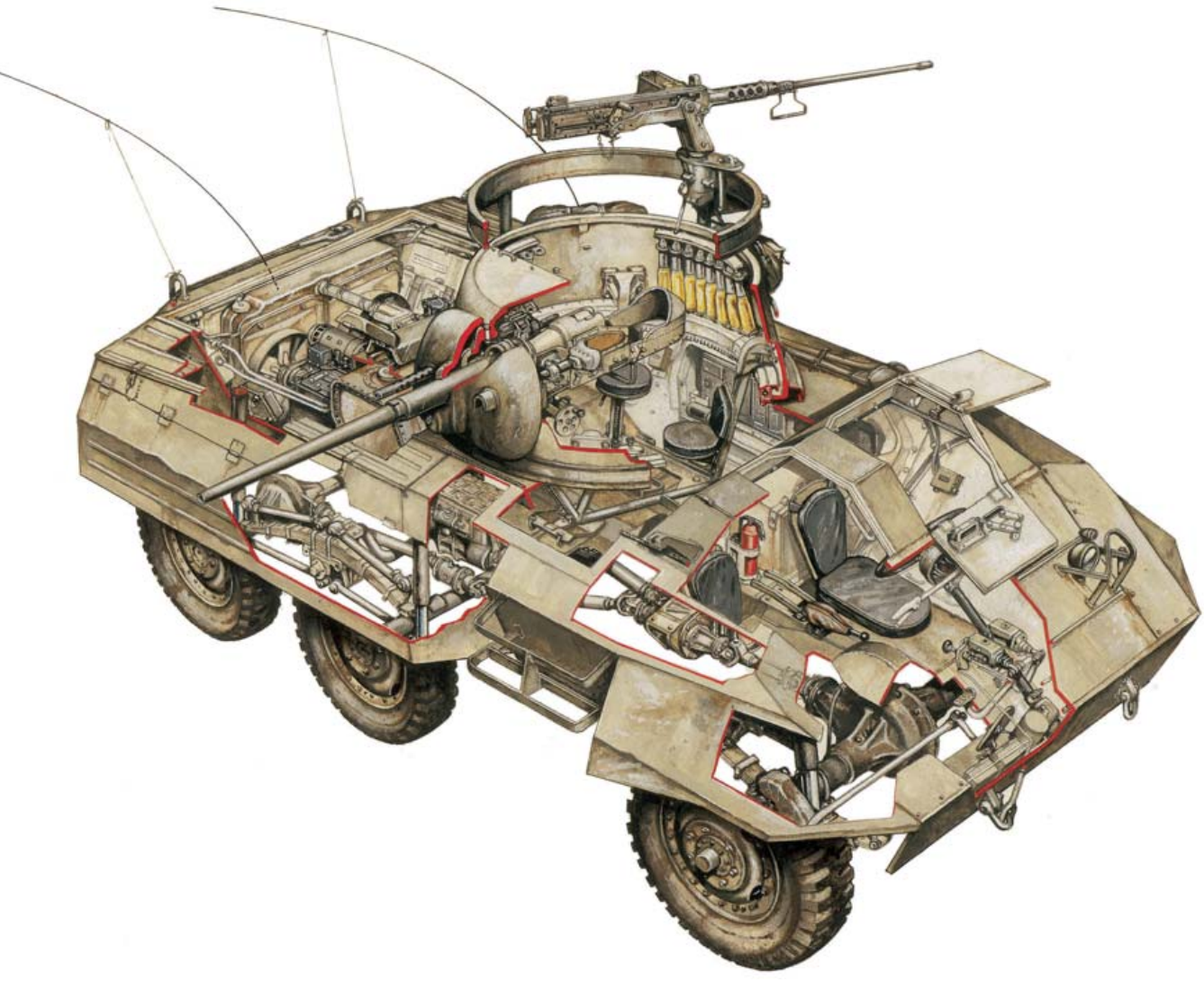
M8 Greyhound Light Armored Car 1941–91



Steven J Zaloga • Illustrated by Tony Bryan

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M8 GREYHOUND LIGHT ARMORED CAR 1941–91

INTRODUCTION

The M8 light armored car was the only armored car used by the US Army in combat during World War II. This stood in considerable contrast to other major armies, such as the British and German, who used many types of armored cars during the war. Originally developed for the Tank Destroyer force, the M8 armored cars were instead used primarily by cavalry reconnaissance squadrons. The M8 did not prove to be entirely adequate in this role, although this was as much a fault of the tactical doctrine as the design of the armored car. A command and utility version of the M8, the M20 armored utility car, also saw extensive use during the war. The M8 armored car was later used in the Korean War, but was retired afterward as new tracked vehicles were developed for the armored cavalry role. Nevertheless, the M8 was a sound automotive design and was transferred in large numbers to other armies around the globe. Indeed, the design was so successful, M8 armored cars have remained in service to the present day.

This patrol of M8 armored cars from C Troop, 2nd CRSM, 2nd Cavalry Group was part of the spearhead of Patton's Third Army during operations in the Ardennes in January 1945. The lead vehicle has had a thorough winter whitewash. The high ground pressure of the M8 limited its mobility in deep snow. (NARA)

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LIGHT TANK DESTROYER AND M8 DEVELOPMENT

Until 1940, US development of armored cars had responded to the requirements of the cavalry, which procured two classes of wheeled armored vehicles, armored cars and scout cars. The difference between the two types was that the armored cars were fitted with turreted weapons, while the scout cars were open-topped vehicles armed with machine guns on skate rails and capable of carrying a dismountable squad. A total of 42 armored cars and 212 scout cars of varying types were procured from 1930 to 1940. On the eve of World War II, the new M3A1 scout car was used for the traditional cavalry mission, but there were no armored cars in series production. The US Army's assessment of the Spanish Civil War experience had led to a preference for tracked and half-tracked combat vehicles since it was felt that wheeled vehicles had poor off-road mobility.

The creation of the Armored Force in 1940 marked an end to the cavalry's central involvement in armored vehicle development. Most ambitious and talented cavalry officers, such as Gen. George S. Patton, switched to the Armored Force, which took over many of the cavalry's traditional roles. Cavalry units continued to exist, but with a diminished mission, mainly limited to reconnaissance. There were a surprising variety of armored cars under development in 1941 despite the lack of demand at the beginning of the war. This was due to two factors. Britain needed them, especially medium and heavy armored cars, which were being developed by the US Ordnance department to fulfill Lend-Lease agreements. Secondly, many US automotive firms had the capability to design and manufacture wheeled vehicles, but not tracked vehicles. So they were offering their own designs as part of the war effort, not based on specific US Army requirements.

The T22 and T23 37mm gun motor carriages were originally designed to replace the expedient M6 37mm GMC in tank destroyer battalions. This was simply a ¾ ton truck with a 37mm gun mounted in the rear bed and one is seen here during training exercises in the United States in 1942. In view of the limited performance of the 37mm gun, the vehicles were reclassified as light armored cars. (NARA)

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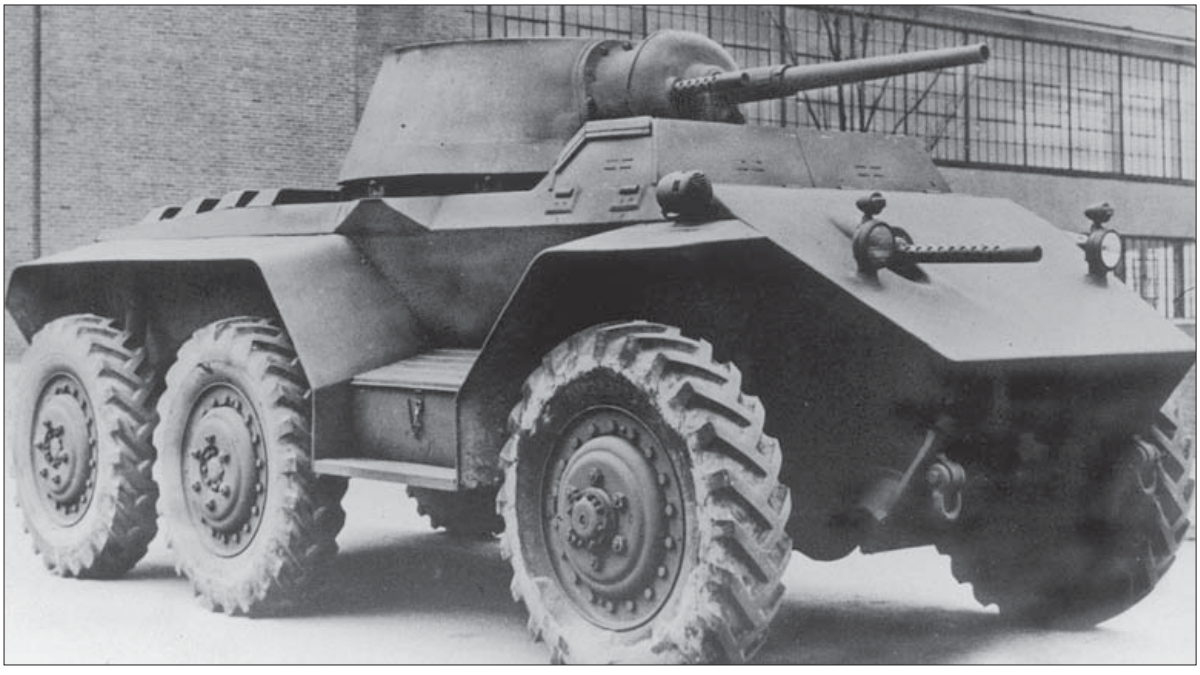

The Ford T22 light armored car pilot differed in many respects from the M8 production vehicle. One of the most obvious changes was the deletion of the front hull machine gun. (Patton Museum)

The M8 light armored car started development in 1941 as a fast tank destroyer. Following the formation of the Tank Destroyer Command in 1940, there was an urgent demand for a mobile 37mm antitank gun. This was temporarily filled by an expedient design, the M6 37mm Gun Motor Carriage (GMC), consisting of a ¾ ton truck with a 37mm gun mounted in the rear bed. It was widely appreciated that this design was far from satisfactory, so in July 1941, the Ordnance department initiated a new 37mm gun motor carriage, intended to be light, fast, highly mobile, with a low silhouette, and suitable to low-cost mass production. Propulsion was from the same Hercules engine used in the M3A1 scout car. In October 1941 development was approved and two competitive designs were authorized, the T22 from Ford Motor Company and the T23 from the Fargo division of Chrysler Corporation. Studebaker was interested in participating in this competition, and so designed a vehicle at its own expense to the same specifications, first called the 37mm GMC T43, and later the T21. The Army accepted Studebaker's offer on 23 January 1942, so this development effort started later than the other two. All three designs were very similar in basic layout and design, having been based on a common Ordnance layout configuration.

The initial requirement called for a 6x4 wheeled armored vehicle with a turreted 37mm gun, a co-axial .30-cal. machine gun, a bow-mounted .30-cal. machine gun, and a combat weight of about five tons. The armor was designed to be proof against a .50-cal. heavy machine gun from the front, and a .30-cal. machine gun from the side. Neither the top nor bottom were armored. Ordnance later expanded the competition to include 4x4 configurations of the designs which were designated respectively as the T22E1 and T23E1.

By early 1942, it was becoming increasingly evident that the 37mm gun was barely adequate as an antitank weapon, and would probably be

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Studebaker funded the development of a third pilot design, the T21 armored car. It was completed after the Ford T22 design had already been selected, and so its further development was halted. Like the Fargo T23, all three armored car competitors were very similar in basic configuration and features. (NARA)

obsolete by the time the new light tank destroyers were ready for production. However, the tank destroyer battalions needed a light armored car for reconnaissance, and the cavalry wanted a light armored car to replace the inadequate M3A1 scout car. In March 1942, the pilot vehicles were re-designated as light armored cars.

The Ford T22 pilot was the first to be completed, and entered trials at Aberdeen Proving Ground on March 16 1942. The design appeared to be so promising that on May 19–20 1942, the pilot was driven from Aberdeen to Ft. Knox, Kentucky, for trials by the using arms. As a result of these trials, the Armored Force Board (AFB) decided that the Ford T22 was suitable, after modification, for use as a reconnaissance vehicle for the armored force and cavalry, and as a gun motor carriage for the tank destroyer command. The AFB felt that the T22 did not have sufficient cross-country capability and believed that a larger three-man turret would be preferable. However, given the urgent need for armored vehicles, and Ford's automotive experience and production capacity, the Army decided to proceed with its manufacture even before completion of the competitive designs. The Ford T22 was officially selected on April 21 1942, and further work on the other two designs brought to a close. The cavalry, which wanted a lighter and more mobile vehicle, was not entirely happy with this decision. The T22 weighed more than the M3A1 scout car, yet was powered by the same engine, and its cross-country performance and mobility off-road were poorer than the already inadequate M3A1 scout car. The 1st Cavalry Division complained that "the T22 being unable to follow the Cavalry on difficult terrain would tend to render the Cavalry terrain conscious." The AFB ignored these complaints as the cavalry was in the process of being substantially reorganized and its mission reoriented toward reconnaissance. The controversy continued behind the scenes, and flared into public view in June 1943 when the New York Times' military correspondent, Hanson Baldwin, wrote a syndicated column based on complaints from cavalry

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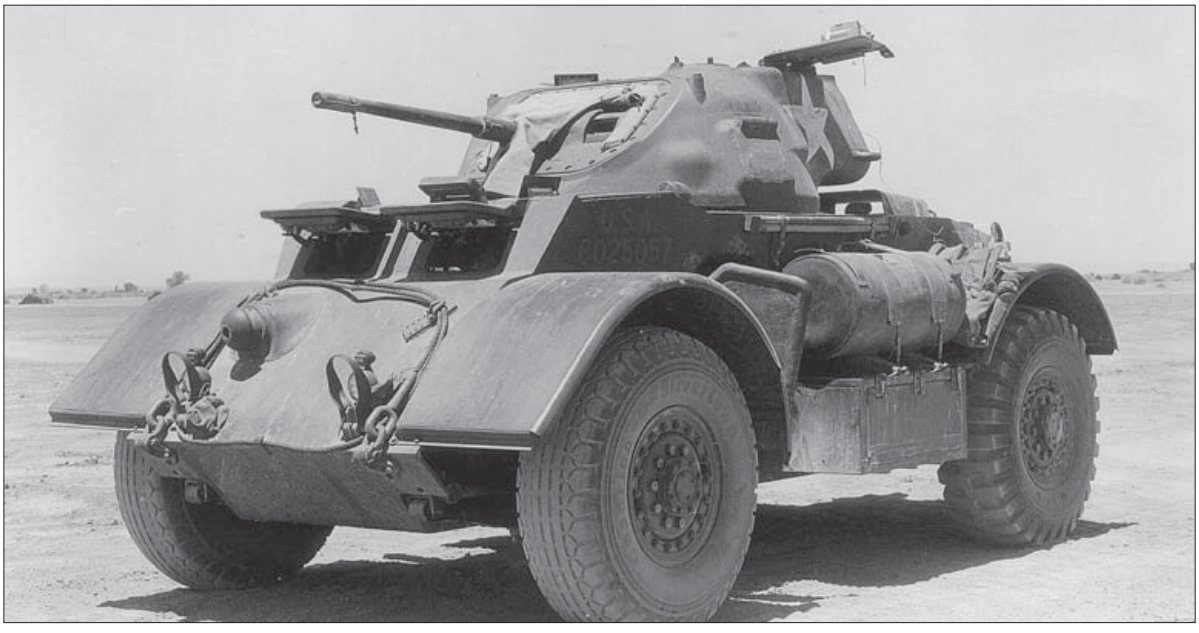
officers at Ft. Riley that condemned the M8 as having "too little power, too little cross-country mobility and too little maneuverability."

The Army approved the completion of the Studebaker and Fargo prototypes, feeling that they would be useful as trials vehicles. The Studebaker T21 design was completed in May, while the Fargo design was never entirely finished. Tests of the Studebaker revealed a number of automotive problems, but it was a moot point as the Ford had already been approved for manufacture. Ford benefited from the Studebaker design, incorporating some features of the hull configuration in its definitive version.

The AFB tests at Ft. Knox highlighted a number of technical problems with the T22 and as a result, the area around the driver's hatch was reconfigured, armored sponsons for mid-hull radio boxes were added, and a number of changes were introduced into the gun and turret. By this stage, none of the user arms were interested in the bow machine gun, and it was removed. Ford incorporated these changes into the fifth pilot vehicle, re-designated as the T22E2. The AFB recommended production even before the pilot was completed, and noted the need for 3,534 vehicles: 2,000 for the Tank Destroyer Command, and 1,534 for the Cavalry. Officials of the British Tank Mission in the US were shown the prototype and asked if they had any interest in acquiring the type through Lend-Lease. They declined this offer in May 1942. The T22E2 was type classified as "Light Armored Car, M8", on June 22 1942.

By the late summer of 1942, the US Army was developing five armored cars ranging in weight from 7 tons to 26 tons with considerable differences in armor protection and other features. There was some confusion over Army requirements for wheeled reconnaissance vehicles, tank destroyers, and light tanks, so on October 13 1942, the Special Armored Vehicle Board was formed to clarify the requirements. Headed by Gen. W. B. Palmer of the Armored Force, it is better known as the Palmer Board. The board visited Aberdeen Proving Ground and

The only other armored car manufactured in large numbers by the United States during the war was the Chevrolet T17E1 and –E2 medium armored car series, nearly all of which were sent to Britain under the Lend-Lease program. Better known by its British name, Staghound, all but eight of the 2,844 T17E1 armored cars manufactured went to the UK. This is a rare example of one of the American T17E1 armored cars retained for test purposes at the Desert Warfare Board at Camp Young in California in 1943. It is in US Army markings, including an army registration number (6025057). The US Army had planned to designate the series as the M6 medium armored car had it been accepted for US service. (NARA)



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inspected the five major types of armored cars in development and their derivatives, including the armored cars T13, T17, T17E1, T18, T18E1, T19, T21, and T22; the gun motor carriages T49, T55 and T57, and the T24 scout car. The board recommended that the army select a single type of vehicle since there was no strong requirement for features that would have necessitated multiple types. The board argued that the armored car was intended primarily for reconnaissance so it should be a light, fast, inexpensive type with a 37mm gun. It was not in favor of the larger, better armored types that were under development to satisfy British Lend-Lease requirements such as the T17E1 (Staghound) and T18 (Boarhound).

The Palmer Board recommendations were well received by Army Ground Forces, which also favored a minimum number of different vehicle types because of the logistical demands of shipping heavy weapons all around the globe. However, other elements of the Armored Force, including its commander, Gen. Jacob Devers, were not happy with the decision. Devers felt the M8 was adequate for the cavalry units, but the armor officers wanted a more capable armored car for reconnaissance such as the T19 or T19E1. The AGF refused to reconsider the decision, and as a result of the Palmer Board, the US Army abandoned any plans to adopt medium and heavy armored cars. Although the T17 and its derivatives were later put into serial production in the United States, all production was earmarked for Lend-Lease to Britain. The Palmer Board recommendation strongly reinforced plans to begin production of the M8 light armored car, even

The first production M8 armored car, serial number 6, was completed at the Ford St. Paul plant in March 1943. Like the T22E2 pilot, it used a cast turret with periscopes for the gunner and commander. The antiaircraft machine gun arrangement had still not been settled at this time. (NARA)

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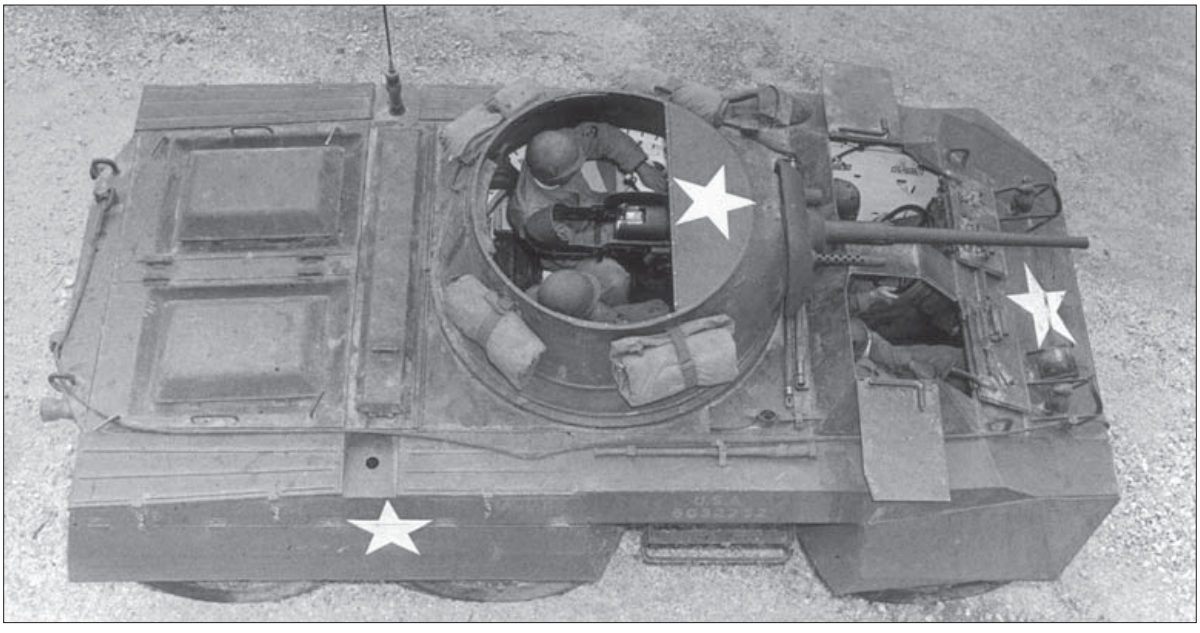
though the board found that the M8 was deficient in a number of respects compared to its ideal armored car. Dissatisfaction with the M8 formed the basis of the development of a new light armored car, which emerged in 1944 as the M38.

A production order for 5,000 M8 armored cars was placed with Ford on May 1 1942, but negotiations over terms of the contract delayed serial production until March 1943. During the interim period, additional modifications were developed for the series production armored car, including the addition of a bullet-sealing gasoline tank. The Tank Destroyer Board urged that the front turret periscopes be removed and the front turret roof reduced in size, which was approved in December 1942. Ordnance wanted to switch from a cast to a welded turret anyway, and this change was incorporated into the new design. Manufacture started first at the Ford plant in St. Paul, Minnesota in March 1943, followed by the Chicago, Illinois plant in May. Even though the new welded turret was supposed to be incorporated in all series production vehicles, the first few closely resembled the T22E2 prototype and still had the older cast turret. The welded turret became available later in March and became the standard production type. One of the recurring problems with the M8 uncovered during testing was the weakness of the front suspension and in particular, the leaf springs. Two vehicles were taken from the production lines in September 1943 for trials with an improved suspension with independently sprung wheels. These were designated as M8E1 and entered trials in September 1944. The new torsion bar suspension was unsatisfactory, and the new suspension was not accepted for production. However, a number of changes in the front spring suspension were incorporated into production vehicles in 1943. The Armored Force Board tested the M8 during the summer of 1943 and on August 21 1943 recommended acceptance for service use.

The longest running controversy with the M8 armored car design concerned the vehicle's secondary armament. The cavalry wanted a



This M8 on trials at Ft. Knox in 1943 shows the standard production configuration with the new welded turret. This is from the April 1943 production run and is the 47th M8 of the serial production run. As will be noted, it has no fitting for an antiaircraft machine gun. (NARA)

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turret-mounted machine gun for antiaircraft defense, but the tank destroyer command saw no need for such a weapon. In fact, the first production vehicle, serial number 6, had two antiaircraft machine guns. When the M8 was type-classified, provisions were made for incorporation of a .30-cal. machine gun for vehicles issued to the cavalry, with a flexible mount on the turret of all vehicles. In September 1942, this was changed to a .50-cal. heavy machine gun and the Services of Supply were ordered to develop a pilot. By the time the first series production M8 armored cars rolled off the production line in March 1943, this was not ready, so the vehicles lacked any antiaircraft machine gun. Several early production vehicles were sent to the Cavalry Board at Ft. Riley, Kansas, and the Tank Destroyer Board at Ft. Hood, Texas for testing and approval. The cavalry was intent on having a turret-mounted machine gun, so fitted a M32 truck ring mount above the turret of the M8 armored car. Trials of the mount were satisfactory, and in August 1943, the cavalry recommended that it be adopted immediately since M8 armored cars were already being deployed overseas. This was also supported by the Tank Destroyer Board, but Ordnance was unhappy with the lack of rigidity in the M32 ring mount. Trials were conducted with the M49 and M49C ring mounts, and on December 16 1943, Ordnance approved mounting the M49C ring mount on all new production M8 armored cars.

In late 1943, the long-delayed D67511 folding pintle bracket mount was finally completed and pilots were shipped to Ft. Riley for trials. The Ordnance preferred the new folding mount since it was much lighter than the 650lb ring mount, and the cavalry finally consented. On April 18 1944, Ordnance cancelled the earlier order authorizing the use of the M49C ring mount, and approved instead the D67511 folding mount. Ordnance later examined at least two other machine gun mounts for the M8, but they were not accepted for production. The consequence of this confusion was that none of the vehicles manufactured to date had an antiaircraft machine gun mount.

The cavalry pressed for an antiaircraft machine gun for the M8 leading to the development of the D67511 folding pintle bracket mount seen here during trials. Adopted for production because it was lighter than a ring mount, this photo clearly illustrates its main tactical drawback: if the machine gun was aimed at targets in front of the vehicle, the gunner was completely exposed on the rear deck of the vehicle. (NARA)

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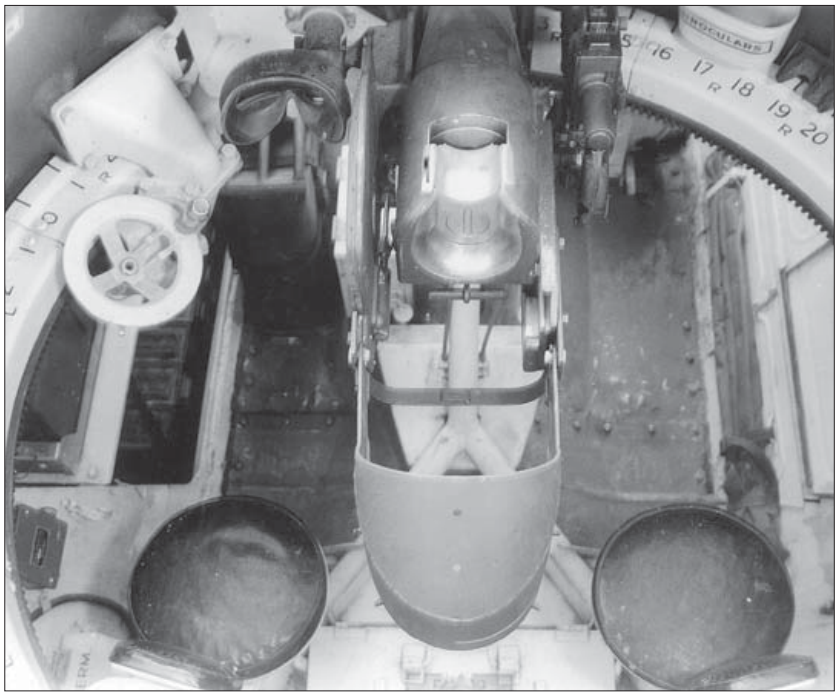

The M8 turret was very simple, with seats for the gunner to the left and the commander to the right. This vehicle was from the early production run, serial number 14, with the one-speed turret traverse device. The radio can be seen on the sponson shelf to the left, while the hull ammunition bin is to the right, covered by the usual sliding doors. (NARA)

Cavalry units stationed in England prior to the Normandy invasion were aware of the ring-mount debate, and with no action forthcoming, took matters into their own hands. Units began to experiment with field fits of various types of machine gun pintles and ring mounts on the M8 armored cars. Many cavalry units deployed to France in June–July 1944 had .50-cal. machine guns fitted to the M8 on non-standardized mountings. The .50-cal. machine gun proved so useful in service that on August 23 1944, the Office of the Chief Ordnance Officer in the European Theater of Operations issued ordnance technical bulletin (OTB) Number 69 approving the addition of a M50 ring mount on the M8 armored cars in service, and provided instructions on how units could do this using available maintenance equipment.

The vulnerability of the M8 to German antitank mines became very clear during acceptance trials carried out by the Desert Warfare Board (DWB) in November 1943. In January 1944, the Army decided to develop suitable belly armor and to issue a maintenance work order to units already deployed instructing them how to install their own expedient armor. In the meantime, the M8 had gone into combat in Italy where the mine threat was very serious. In March 1944 the North African Theater of Operations-US Army (NATOUSA) issued their own work order for a field fix of the belly armor problem. As the Ordnance kit was not yet ready, this was accepted as a temporary measure and details were forwarded to the European Theater of Operations (ETO). Ordnance Technical Bulletin #35 on April 28 1944 authorized and described the installation of quarter-inch hard-faced armor plate to the floor of the front compartment, and this was carried out on many M8 armored cars prior to the campaign in France. The definitive Ordnance floor armor design was completed in June 1944, which was incorporated into subsequent production vehicles, and also led to a kit for field modification of M8 armored cars already deployed.

Another major problem uncovered during testing in the autumn of 1943 concerned the stowage of radios and ammunition. In its original configuration, the M8 had a sponson shelf for a single radio on the left side, and an ammunition stowage rack for 64 rounds of ammunition in the right sponson. The M8 entered production shortly before the cavalry was reorganized and its standard table of organization and equipment (TO&E) approved. Under the new TO&E adopted in September 1943,

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These M8 armored cars of the headquarters of the 104th CRSM are late production types fitted with the folding pintle mount. This feature entered production so late that it was seldom seen in the ETO. Another curious detail on these vehicles is the use of the large .50-cal. ammunition containers, usually found on antiaircraft mounts. The lead vehicle has the nickname "Pigeon of Geneva" chalked on the front mud guard, and the unit was photographed at St. Nazaire, France, on March 23 1945. (NARA)

all cavalry armored cars were to be fitted with two radios. The only place to locate the second radio was in the right sponson, forcing the elimination of the main ammunition rack and limiting the ammunition stowage on the vehicle to the 16 rounds carried in the turret ready racks. In October 1943 the Desert Warfare Board recommended that only command armored cars carry two radios and the rest carry a single radio. The cavalry rejected this, and the Army Service Forces agreed, stating the drop in ammunition stowage to be "highly undesirable…but acceptable". In November 1943, Army Ground Forces made this official, and vehicles manufactured after March 1 1944 were delivered with radio racks in both sponsons. However, a supply of the sponson ammunition racks was delivered to ordnance tank depots for fitting in vehicles assigned to the tank destroyer battalions which did not require two radios. Work began on new ways to stow ammunition in the M8, but was not completed in time. Cavalry units with M8 armored cars deployed in Italy were not at all happy with the situation, and began to mount part of the ammunition rack in the turret, which was far from ideal. Cavalry units in England cut down the sponson ammunition rack, and placed a reduced rack stowing 36 rounds under the radio shelf on either side in the area formerly used for stowing rations. This was disseminated to other units in Ordnance technical bulletin #48 of May 8 1944. However, this field modification was not entirely successful, as ammunition stowage was still only about half of the previous level, and the ammunition was difficult to reach so close to the floor. In the meantime, an ordnance depot in Cheltenham had determined that it was possible to salvage more of the original 64-round sponson rack. Two smaller racks could be made from the original, one with 20 rounds that would fit between the two turret seats, and a 43-round box that would fit behind the driver's seat in place of a jerrican used to stow water for the crew. The configuration was not perfect given the

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cramped conditions in the M8 hull, but many cavalry units preferred more ammunition over comfort. This configuration was authorized and described in OTB # 65 released on July 22 1944.

It became clear in combat that an auxiliary generator was needed to power the two radios. When the vehicle engine was shut off, the radios drained the batteries much too quickly. Rather than keep the engine running, the troops preferred an auxiliary generator to the vehicle. This was also a problem on some half-tracks fitted with additional radios, so in October 1944, a program was started in the ETO to install about 1,400 "Little Joe" auxiliary generators on armored cars and half-tracks fitted with two radios.

Various changes were introduced on M8 armored cars on the assembly line in 1944. By June–July 1944, the new D67511 folding pintle bracket mount was added behind the turret, a machine gun tripod was added to the stowage, and a stowage box was added on the glacis plate. In November 1944 a further stowage improvement was made with the addition of a large pannier on either hull side, replacing the previous mine rack, and a first aid kit on the rear left skirt. These improved versions were manufactured so late that few vehicles with these features were deployed to the ETO. A small number of M8 armored cars with the folding pintle mount arrived in Europe in March 1945.

M8 DERIVATIVES

From the outset, derivatives of the M8 light armored car were planned. In particular, the Tank Destroyer force wanted a command vehicle, a personnel and cargo carrier, and an antiaircraft vehicle, so development began on December 17 1942. The command vehicle was designated as Armored Command Car T26, the troop carrier as the Personnel-Cargo Carrier T20, and the antiaircraft vehicles as the Multiple Gun Motor Carriage (MGMC) T69. The T26 command car was intended to be similar to the basic M8, but without the turret gun, and with a machine gun ring mount over the turret. The T20 carrier was intended as a turret-less vehicle with an open top for maximum stowage and a 15in.-high parapet running around the opening to provide some ballistic cover when carrying troops.

Since the T20 and T26 requirements were so similar, the two were merged into a single vehicle which became the Armored Utility Car T26.

The M20 was frequently used as a command car for senior commanders. This is the armored car of Gen. George S. Patton, commander of the Third US Army near Metz in November 1944. Typical of command cars, it carries the red metal flag on the front with his rank insignia. Sitting in the armored car with Patton is Anerill Harriman, US ambassador to the Soviet Union, who was visiting US troops at the time. (NARA)

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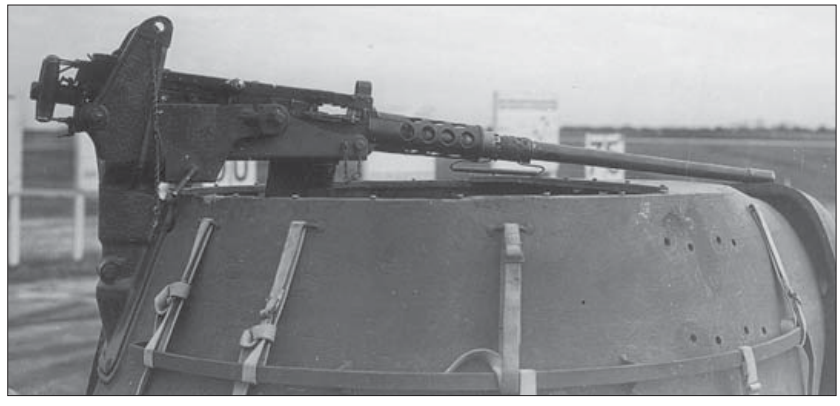
Development proceeded quickly since it was a very simple adaptation of the M8. The vehicle's open parapet was surmounted by a M49 ring mount for a .50-cal. heavy machine gun. The vehicle could carry five to seven men, and if the seats were removed, up to 3,000lb of cargo.

Following trials, the Armored Force accepted the T26 armored car for service use on February 18 1943 and standardization was recommended in April 1943 as the Armored Utility Car M10. The Tank Destroyer Board, already employed the M10 3-inch GMC, and it was felt that the designation would lead to confusion, so it was changed to Armored Utility Car M20 when standardization was approved on May 6 1943. Production of the M20 began in July 1943 at Ford's Chicago plant. Since the M20 would be used by a wide range of command and rear service units who would not need a .50-cal. heavy machine gun, this was dropped from the vehicle requirements on August 2 1943. Units using the M20 in a forward combat role and authorized to employ the heavy machine gun were issued one with the vehicle, but many M20s were deployed without it.

ABOVE **This is another example of a command car; in this case, that of Maj. Gen. Clarence Huebner, commander of the First US Army near Torgau, Germany on 27 April 1945 when the US Army and the Red Army met along the Elbe river. This vehicle has many small modifications including a step on the bow and ladders on the side to make it easier for the officers to get in and out. It also has a plastic windscreen added. (NARA)**

In early 1944, an M20 was tested with the T86 machine gun mount, a type of twin .50-cal. machine gun mount adapted from the Navy's Mk 17 mount. Although there was no need for such a weapon, the trials revealed that the T86 ring mount was superior to the M49 mount: it used roller bearings which resulted in less dispersion when the machine gun was fired. As a result, work began on the T106 ring mount with a single .50-cal. heavy machine gun. A modified version, the T106E1, was approved for production on August 15 1944 as the M66 ring mount, equipping the final production run of the M20 armored car. In November 1944, a second auxiliary generator was approved for all vehicles fitted with two radios.

The antiaircraft T69 MGMC incorporated a new turret developed by the W. L. Maxson Corp. in November 1942. This power-driven turret was armed with four .50-cal. machine guns. An auxiliary power unit was added to the chassis to power the turret's electrical system when the vehicle was stationary with its engine turned off. The pilot of the T69 was tested at Aberdeen Proving Ground, and it was found that numerous small changes were needed to the turret. A second round of tests followed at Aberdeen and at the Antiaircraft Artillery Board at Camp Davis, North Carolina. The Antiaircraft Board was not impressed with the design, finding the vehicle inferior to the existing M16 MGMC, which was a version of the



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M3 half-track with a different Maxson turret. The Chief of Ordnance office, however, felt that the T69 had a number of advantages over the M16. In spite of their advocacy of the vehicle, the project was closed.

M8 AND M20 ARMORED CAR PRODUCTION

	M8	M20
1943		
March	15	
April	31	
May	110	
June	169	
July	512	126
August	314	205
September	803	275
October	545	293
November	1000	400
December	800	325
1944		
January	562	214
February	468	193
March	241	53
April	223	48
May	241	53
June	234	32
July	256	29
August	243	83
September	232	158
October	234	160
November	234	159
December	215	155
1945		
January	232	97
February	144	153
March	162	163
April	150	150
May	153	156
June	111	
Total	**8634**	**3680**

INTO SERVICE

There were serious shortages of M8 armored cars through most of 1943 because production had started late. An interim deployment schedule was developed, with select infantry divisions receiving two each, armored divisions six each, cavalry regiments ten each, and tank destroyer battalions two each, mostly for acquaintance and training purposes. As production began to ramp up later in the year, the armored cars were issued as planned under the new 1943 Tables of Organization and Equipment (TO&E) that had been reconfigured based on the experiences in North Africa.

Although originally intended for the tank destroyer command, most M8 armored cars served in mechanized cavalry units. The non-divisional mechanized cavalry regiments were broken up in late 1943 and early 1944 to form cavalry reconnaissance squadrons (mechanized). Each squadron consisted of a headquarters troop, three reconnaissance troops

OPPOSITE **A close-up of the D67511 folding pintle bracket mount that was accepted for production in April 1944. This is the mount during trials, without the clip added to the forward turret roof on production vehicles to lock the barrel in place during travel. This feature entered production in the spring of 1944, and so was seldom seen on vehicles in combat in the ETO during World War II. (NARA)**

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This is an example of the new production configuration in the summer of 1944 with the D67511 folding pintle bracket mount, the barrel clip on the turret roof, and the added stowage box on the glacis plate. This is from the July 1944 production run, and still retains the side mine rack which was dropped from production late in 1944. (Patton Museum)

lettered A, B, and C, an assault gun troop lettered E, and a light tank company called F Company. The M8 light armored cars served in the reconnaissance troops. Each troop had a headquarters platoon and three reconnaissance platoons. Each reconnaissance platoon included one M8 armored car, a machine gun bantam and a mortar bantam. "Bantam" was the cavalry nickname for the 1/4 ton light truck, better known elsewhere in the US Army as the jeep. The assault gun troops were equipped with the M8 75mm howitzer motor carriage (HMC), and the light tank company had 17 M5A1 light tanks.

The cavalry reconnaissance squadrons organic to armored divisions had 52 M8 armored cars and eight M8 75mm HMC, while non-divisional squadrons had 40 M8 armored cars and six M8 75mm HMC. The armored divisions remaining under the old 1942 heavy table of organization and equipment such as the 1st, 2nd and 3rd Armored Divisions had their mechanized cavalry organized as an armored reconnaissance battalion and this formation had 75 M8 armored cars. The 1st Armored Division converted to the light 1943 TO&E in 1944, and so the 81st Armored Reconnaissance Battalion became the 81st Cavalry Reconnaissance Squadron (Mecz).

The non-divisional cavalry squadrons were usually formed into mechanized cavalry groups consisting of a headquarters troop and two squadrons. A total of 13 of these groups saw combat in the European Theater of Operations (ETO) during the war, and there were additional groups in the United States for training. These were nominally allotted at army-level,

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though in practice, each army would have several cavalry groups and usually distributed them on a scale of one per corps to provide necessary scouting and flank security. The Mediterranean theater had lower priority for new equipment and so in early 1944 the Fifth and Seventh Armies in Italy only had a separate squadron attached at army level.

Tank destroyer battalions had a reconnaissance platoon with six M8 armored cars in self-propelled battalions and four M8 armored cars in towed battalions. The self-propelled battalions also had 30 M20 utility

ARMORED DIVISION CAVALRY RECONNAISSANCE UNITS, 1944

Armored Division	Cavalry Unit
1st Armored Div.	81 ARB/81 CRSM
2nd Armored Div.	82 ARB
3rd Armored Div.	83 ARB
4th Armored Div.	25 CRSM
5th Armored Div.	85 CRSM
6th Armored Div.	86 CRSM
7th Armored Div.	87 CRSM
8th Armored Div.	88 CRSM
9th Armored Div.	89 CRSM
10th Armored Div.	90 CRSM
11th Armored Div.	41 CRSM
12th Armored Div.	92 CRSM
13th Armored Div.	93 CRSM
14th Armored Div.	94 CRSM
16th Armored Div.	23 CRSM
20th Armored Div.	33 CRSM

CRSM= Cavalry reconnaissance squadron (mechanized)
ARB= Armored reconnaissance battalion

CAVALRY GROUPS IN THE ETO, 1944

Cavalry Group (Mecz)	Squadrons
2nd CGM	2, 42 CRSM,
3rd CGM	3, 43 CRSM,
4th CGM	4, 24 CRSM
6th CGM	6, 28 CRSM
11th CGM	36, 44 CRSM
14th CGM	18, 32 CRSM
15th CGM	15, 17 CRSM
16th CGM	16, 19 CRSM
101st CGM	101, 116 CRSM
102nd CGM	38, 102 CRSM
106th CGM	106, 121 CRSM
113th CGM	113, 125 CRSM
115th CGM	104, 107 CRSM

OPPOSITE **The final production configuration of the M8 light armored car was approved in November 1944. The most noticeable change is the substitution of the side stowage panniers in place of the mine racks. This configuration also included a first aid kit attached to the left rear mud guard. (Patton Museum)**

armored cars for use as command and utility vehicles, while in the towed battalions, there were ten in each battalion. US Army infantry divisions each had a cavalry reconnaissance troop which was organized much like those in the cavalry squadrons, and had 13 M8 armored cars. There were 42 of these troops committed to combat in the ETO in 1944–45. The two August 1942-pattern cavalry divisions had 26 M3A1 scout cars, but when the 1st Cavalry Division was reorganized into a dismounted infantry

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pattern in 1943 prior to deployment to the Pacific, it received a cavalry squadron like normal infantry divisions.

THE M8 ARMORED CAR DESCRIBED

The M8 light armored car had a crew of four: a driver and co-driver in the front of the hull, a commander/loader in the right side of the turret, and gunner in the left side of the turret. The vehicle was powered by a 110 horsepower Hercules JXD in-line 6-cylinder engine, operating on 70 octane gasoline. The powertrain was a conventional design based on commercial automotive components, and all three Timken split-type axles were powered. The suspension was a conventional leaf-spring type. The driver's station was in the left forward portion of the hull. The driving controls were like those of a conventional automobile, relying on a steering wheel. The Warner Gear Co. gear shift and transfer case was mounted between the two forward seats and was operated in the usual fashion via a clutch pedal. In combat, the driver could look forward, either through a direct vision slot or a protectoscope with armored glass. Outside the combat area, the front hatch panel could be folded down for a better view. In general, the view from the driver's seat was very limited when the armored hatches were closed. The co-driver station had originally been included in the design to provide a crew-man to operate the front-hull machine gun. When this feature was deleted early in the design process, the co-driver had few specific functions, so when cavalry units began to suffer casualties, this position was the first left vacant. The front driver's compartment was very cramped, especially in combat when additional gear tended to be stowed in every nook and cranny.

The turret was of welded construction and was open at the top. The armament consisted of a 37mm M6 gun with a co-axial M1919A4 .30-cal. air-cooled light machine gun on the right side mounted in a Miller Printing Co. combination gun mount M23A1. The gunner sat on an adjustable seat attached to the turret ring. The gun was aimed using an M70D telescopic sight, and elevated using a manual hand control located to the gunner's right. To the gunner's left was the turret traverse used for aiming the gun in azimuth. On the first 1,100 M8 armored cars produced through August 1943, this was a one-speed traverse. Vehicles manufactured

When deployed in cavalry units with two radios, the ammunition stowage in the M8 was reduced to only 16 rounds. As a result, Ordnance depots in Britain cut the sponson stowage rack in two, placing a rack for 43 rounds behind the gunner's seat as seen here in the upper left, and a second box with 20 rounds between the two turret seats. This photo was taken in Cheltenham on July 5 1944 to help illustrate the change. (NARA)

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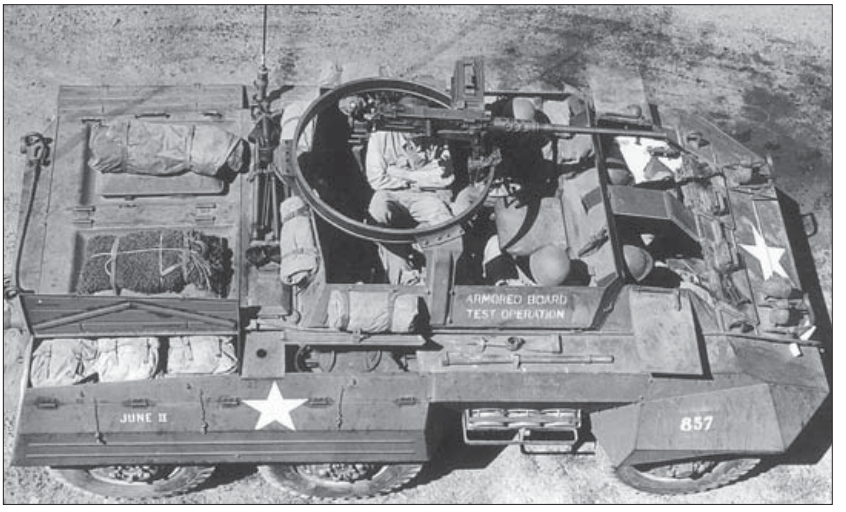


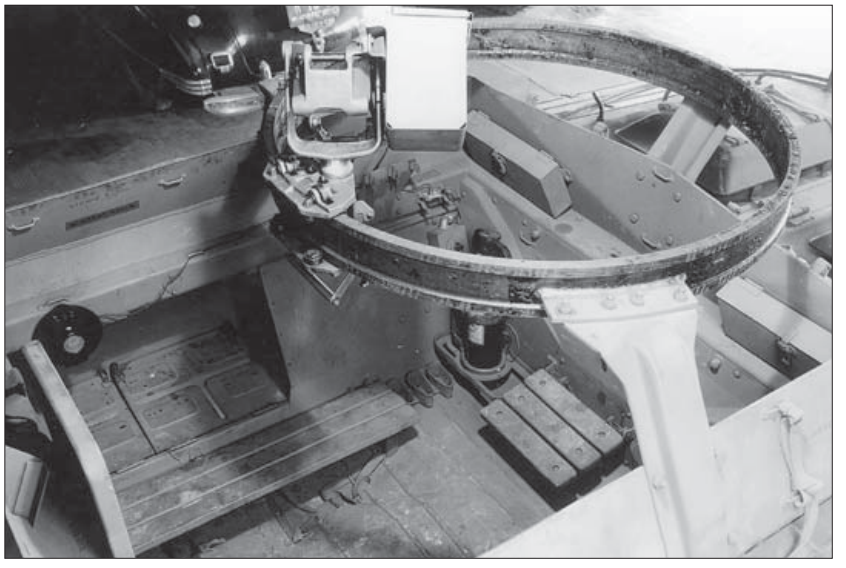
ABOVE **The M20 armored utility car was a simple adaptation of the M8 armored car with the turret replaced by a simple parapet and ring mount. This photo was taken by the Armored Board at Ft. Knox in 1943 to show the proper positioning of the vehicle stowage. (NARA)**

BELOW **Since the M20 was intended for a wide range of uses, the interior was kept clear except for essentials. This view inside the cargo bay shows it with the usual bench seats. As will be noted, the sponson hutch does not have a radio fitted in this view. (NARA)**

from late August 1943 onward had two speeds. The gun and co-axial machine gun were fired using foot pedals mounted on a small platform suspended from the turret ring. The vehicle commander sat in the right side of the turret. Besides his command functions, he was also responsible for loading the 37mm gun and the co-axial machine gun. The crew communicated via a RC-99 interphone system.

In the basic configuration, the vehicle carried 80 rounds of 37mm ammunition, consisting of 64 rounds stowed in a rack in the right sponson near the commander's knee, and in two eight-round ready racks located on the inner turret walls. As mentioned above, the addition of a second radio in the cavalry vehicles led to the deletion of the main rack, though various field modifications were later made to increase stowage. M8 armored cars deployed in tank destroyer units usually retained the standard ammunition bin since they had only a single radio. Three types of 37mm ammunition were used by the M8: M51B1 or –B2 armor piercing, M63 high explosive, or M2 canister round. Vehicles tended to carry more high explosive and canister, as the 37mm armor piercing round was ineffective against the frontal armor of most German armored vehicles of the 1944–45 period. The role of the M8 was not to fight enemy armor, but to provide fire support to the troop.

In view of its role as a reconnaissance vehicle, the M8 was amply provided with radios. The plan was to equip all vehicles with the SCR-508 radio, but shortages in 1943 led to the substitution of the older SCR-193 transmitter and SCR-312 receiver combination on early production vehicles. In cavalry units, the 1943 table of organization and equipment (TO&E) called for each M8 to be fit with two radios, an SCR-506 and an SCR-508. The SCR-506 FM and was usually mounted on the right side for the vehicle commander to communicate between troops and squadron headquarters. The SCR-508 short-range radio was



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The M20 was used as a test-bed for the T86 machine gun mount, a twin .50-cal. machine gun mount adapted from the Navy's Mk 17. It was never seriously considered for use on either the M8 or M20, but the superior performance of its roller bearing construction led to the improved M66 ring mount. (NARA)

simpler to use, designed for personnel not extensively trained on radios, and was used within the troop for communication. This radio was usually fitted in the sponson hutch near the gunner's knee. The platoon communication net usually used three pre-set channels, the first FM channel between the armored cars and troop commander, the second FM channel to the SCR-510 radios on the platoon bantams, and the third AM channel as the internal command net between the troops' armored cars. The use of a combination of the SCR-506 and SCR-508 was by far the most common configuration for M8s deployed in the ETO. For example, of the M8s available in the early summer of 1944, 1,100 had the SCR-506/-508 combination, while only 187 had a single radio, either an SCR-508 alone, or more often an SCR-608 or SCR-610. The vehicles with the SCR-608 and SCR-610 radios were intended for distribution to tank destroyer battalions, which generally used the SCR-610 radio in their gun motor carriages.

The crew was provided with M1 carbines for self-defense and dismounted action. The co-axial machine gun could be dismounted from the vehicle and fired from a tripod stowed on the vehicle. The M8 armored car also carried a variety of other weapons, including 12 hand grenades. Racks on the exterior side of the sponsons were designed to carry three M1A1 antitank mines each for a total of six per vehicle. Some units viewed these as a hazard in combat since it was believed that they could be set off by hostile small arms fire or shrapnel. Many units did not regularly carry the mines, and used the racks for stowing other equipment instead. In general, the M8 lacked provision for typical combat stowage. As a result, the crews tended to pile gear on the rear engine deck which interfered with proper engine ventilation and led to premature engine breakdowns.

THE M8 ARMORED CAR IN COMBAT

The first M8 light armored cars were deployed to the Mediterranean Theater of Operations (MTO) in the autumn and early winter of

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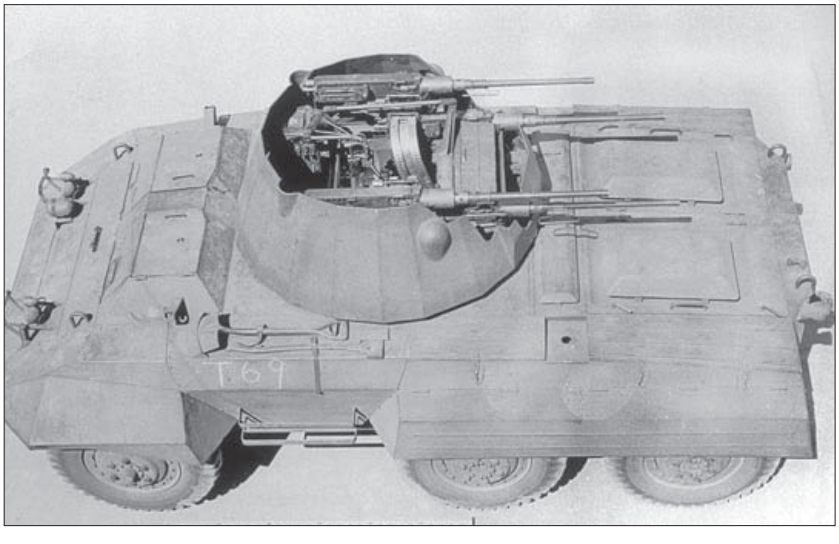
ABOVE **Following trials of the T86 mount, the Army developed the T107E1 ring mount seen here on an M20. This was deemed superior to the M49 in use as it provided a more steady platform when firing. It was adopted for production on the final series of M20 armored cars as the M66 ring mount. (NARA)**

BELOW **The T69 multiple gun motor carriage used a Maxson power turret with four .50-cal. heavy machine guns for use as an antiaircraft vehicle. It was cancelled after trials showed that it offered few advantages over the existing M16 MGMC on the M3 half-track. (NARA)**



1943–44, and by November 1943, there were 150 deployed with various units. The 81st Armored Reconnaissance Battalion of the 1st Armored Division was reequipped with the M8 when it was reorganized in Morocco in October 1943. The M8 armored cars were also deployed with the Fifth Army's cavalry unit, the 91st Cavalry Reconnaissance Squadron, as well as some tank destroyer battalions. The 91st CRSM was first committed to action on January 17 1944, when it served as the screening force for the 36th Infantry Division during the attempts to cross the Rapido River on the approaches to Cassino. While elements of the Fifth Army became bogged down in front of Cassino, an end run was attempted by landing forces at Anzio in late January. The first actions by M8 armored cars in this sector took place on January 29 1944, when armored cars of Co. B, 81st ARB conducted a scouting patrol shortly after the 1st Armored Division had landed in the Anzio beachhead. The fighting on this front shifted to defensive actions when the Germans began attacking the beachhead in force during February. Three M8 armored cars were lost in the late January fighting in Italy. A third unit, the 117th CRSM, arrived in May 1944 with the Seventh Army, but departed in August for southern France. In addition, the eight tank destroyer battalions in Italy gradually received the M8 and M20 armored cars, as did infantry divisions in the region. The Italian theater did not have priority for new equipment, and there were shortages of M8 armored cars for most of 1944. Even as late as July 1944 after the capture of Rome, there were only 185 M8 armored cars and 50 M20 armored utility cars with the Fifth Army. The shortages forced units to substitute the M2 half-track for M20 armored cars in many units. In total, 111 M8 armored cars and 72 M20 armored utility cars were lost in combat in the Italian theater, with most of the casualties coming in 1945 during the fighting in northern Italy. Mines were the primary cause of combat losses.

Initial reports about the M8 armored car from Italy in early 1944 were not

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The M8 armored car first went into combat in late January 1944 in Italy with the Fifth Army's 91st Cavalry Reconnaissance Squadron (Mecz), and with the 1st Armored Division's 81st Armored Reconnaissance Battalion. The 91st CRSM saw action on the Cassino front, and this photo shows a vehicle of A Troop near Cassino on February 20 1944. The crews have already started to fit improvised .50-cal. machine gun mounts to the vehicles. (NARA)

entirely favorable. The cavalry troops complained that it was unable to negotiate difficult terrain. The Fifth Army operated in mountainous terrain and found that the M8's limited mobility restricted it to roads. This, in turn, required excessive route reconnaissance which diminished its value as a scout vehicle. As mentioned earlier, the cavalry also complained that inadequate belly armor provided poor crew protection against landmines. While some of the technical problems were fixed by cavalry units in England, the tactical problems were largely ignored since it was felt that operations in France would be significantly different from the mountainous areas of Italy.

Prior to the invasion of France in June 1944, there were about 1,500 M8 armored cars with units in the European Theater of Operations (ETO). Some of these were modified, with various improvements to turret machine guns, ammunition stowage, and floor armor. One of the first M8 units to see combat in France was the 4th CRSM. This unit's 3d Platoon, B Troop was attached to a task force under Col. Edson Raff with the mission to establish a link between the beach and the 82nd Airborne Division, one of the first cavalry units to land at Utah Beach on D-Day. It took part in the drive to reach St. Mère Eglise. The platoon found that the .50-cal. machine guns that had been added in England were essential, and reported that the German infantry "was terrified of its effects." Since most of the fighting was against infantry and antitank guns, the 37mm gun was used mainly with canister ammunition, an anti-personnel projectile full of small pellets. Many other cavalry units landed at Normandy on the following days, including reconnaissance troops attached to the infantry divisions. Reports from these units echoed the sentiments regarding the .50-cal. machine guns. An officer with the 29th CRTM attached to the 29th Infantry Division reported, "Half a dozen times we stopped and used our .50 caliber machine guns and 37's with devastating effect. Many times since then we have been thankful that we had those .50 caliber machine guns mounted on the turrets of our M8s. This was one of them. The Huns really hate those 50s!"

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Besides their use in cavalry reconnaissance units, the M8 armored cars were also deployed with tank destroyer battalions in Italy. This M8 armored car nicknamed "Nina Chiquita" is seen in the streets of Gaeta on May 20 1944, a day after it was captured by the 91st CRSM. These vehicles served with the reconnaissance platoon of the 804th Tank Destroyer Battalion, which was supporting the 88th Division during the link-up between the Cassino front and the Anzio beachhead. (NARA)

The combat performance of the M8 armored cars during the fighting in France reflected problems in the tactical doctrine of the cavalry reconnaissance squadrons. It was planned to use these units mainly for reconnaissance, using tactics popularly dubbed "sneak and peep". The official tactic for the squadron was to "employ infiltration tactics, fire, and maneuver to accomplish reconnaissance missions. It engages in combat only to the extent necessary to accomplish the assigned mission." The problem in using the M8 in this fashion was that its limited off-road mobility did not allow it to go cross country, especially in the terrain of Normandy where the fields were cordoned off by high hedgerows. It was impossible to infiltrate German positions along the roads since the road network was so limited, and often interdicted by prepared German positions reinforced with antitank weapons and mines. To make matters worse, the M8 was not very maneuverable in narrow roads, and was difficult to back up in a confined space. The squadrons had to fight for intelligence, and the M8 was not really designed for intense, prolonged combat at close quarters.

The greater problem was that the tactical doctrine for the cavalry reconnaissance squadrons was ill-conceived. As quickly became apparent, the squadrons were seldom used for reconnaissance. Corps commanders appreciated that the cavalry reconnaissance squadrons offered a unique mix of speed and firepower that was useful for a wide range of combat missions, much more like traditional cavalry doctrine than the new cavalry reconnaissance doctrine. Traditional cavalry missions included offensive combat, exploitation and pursuit, seizing and holding important objectives until the arrival of the main force, screening, security for other forces, and reconnaissance. The hallmark of traditional cavalry was flexibility and adaptability, but the cavalry reconnaissance squadrons had been narrowly configured for the specialized role of reconnaissance. They were very lightly equipped since they were not expected to engage in intense combat.

These shortcomings could be overcome by using the squadron as the core of a small task force. Typically this involved attaching engineers, tank

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destroyers, or self-propelled artillery depending on the mission. Even without attachments, these cavalry squadrons had more than double the firepower of an infantry battalion with only about 75 percent of the manpower. During the Normandy campaign, cavalry squadrons were mostly used for special operations most of the time, such as security and control of rear areas, or acting as a mobile reserve.

One of the main problems with the M8 armored car in Italy was its vulnerability to mines. The floor had no armor, which lead to high crew casualties when mines were encountered. One of the crewmen of this M8 looks over the damage while the turret crew keeps watch near Castiglionocello on July 13 1944. This particular vehicle served with a tank destroyer reconnaissance company. (NARA)

The role of cavalry continued to shift through the summer. In the wake of Operation Cobra, the breakout from Normandy in late July 1944, Patton's Third Army raced for the Seine River. In the hands of a cavalry commander like Patton, the cavalry reconnaissance squadrons performed extremely well. With Patton's armored divisions performing the traditional cavalry role of exploitation, the cavalry squadrons were used in other cavalry tasks, including screening the main force along the unprotected flanks, and carrying out rear area security in countryside that had been bypassed during the lightning advance. The M8 armored cars proved extremely well suited to this role because of their high speed and durability. Freed from the confining terrain of Normandy, they were in an environment more suited for cavalry operations. In fact, the speed of the operations caused some problems. The habit of attaching tank destroyers to the squadrons for added fire support often proved unworkable in this campaign as the M10 tank destroyers could simply not keep up with the fast-moving patrols of M8 armored cars and the even faster bantams. Patton's cars were known as "Patton's Ghosts".

Nevertheless, the cavalry units had to be employed with care as they were too light to withstand direct engagements with heavier German formations. This was especially clear during Operation Dragoon in southern France following the landings on the French Riviera, when the US Seventh Army's spearhead was the 117th Cavalry Reconnaissance Squadron (Mecz), which kept in constant contact with the German Nineteenth Army as it retreated northward. Like a greyhound chasing a panther, the 117th CRSM was constantly nipping at the heels of the rearguards of the still-powerful German foe. In a bold stroke on the morning of September 3 1944, the 117th CRSM moved 35 miles and seized the town of Montreval deep behind the German main line of resistance. In so doing, it threatened the supply line of the 11th Panzer Division which was holding this sector of the front. The divisional commander, Gen. Lt. Wend von Wietersheim, ordered his reconnaissance battalion, reinforced by six Panther tanks, an engineer

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A: M8 Armored Car, A Troop, 91st Cav. Recon. Sdn. (Mecz), US Fifth Army, Cassino, Italy, February 1944

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B1: M8 Armored Car, Reconnaissance Troop, 1st Brazilian Expeditionary Force, Italy, 1944

B2: M8 Armored Car, Co. C, 82nd Armd. Recon. Bn., 2nd Armd. Div., Operation Cobra, July–August 1944

B

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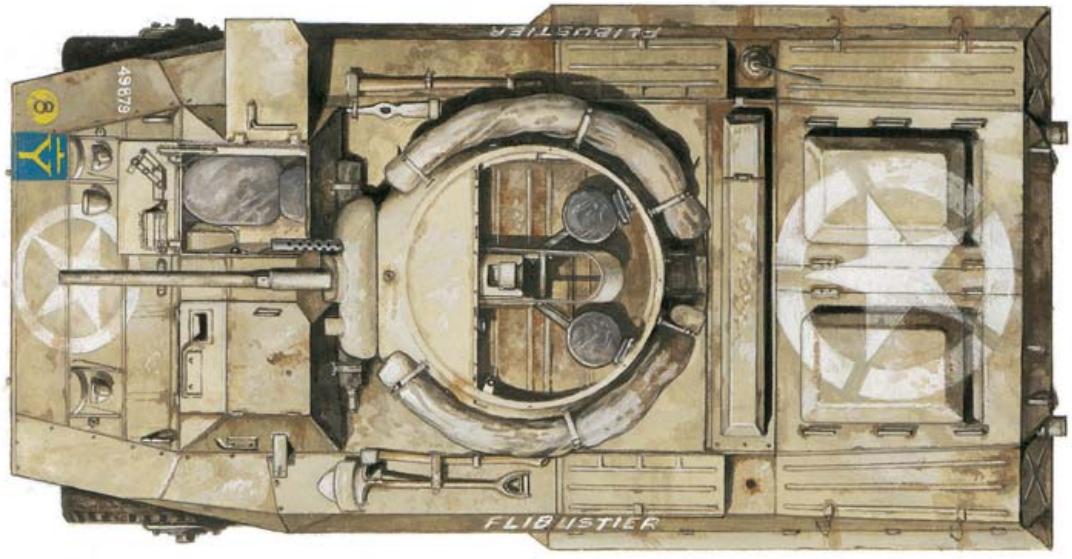
C: M8 Armored Car, 1e Escadron, Regiment blinde de Fusiliers Marine, 2e Division Blinde, France July 1944



c

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D: M8 ARMORED CAR CROSS-SECTION

KEY

1. Fan Belt
2. Radiator Filler Cap
3. Fan Shroud
4. Generator
5. Hercules JXD Engine Compartment
6. . 30 Cal. MG
7. Radiator
8. Thermostat Housing
9. Carburetor
10. Mantlet
11. 37mm Gun
12. Radio Aerial
13. Turret Ammo. Racks
14. Browning . 50-cal. MG
15. MG Support Ring
16. Ring Mount M49
17. Telescopic Sight
18. Turret Ammo
19. Elevating Mechanism
20. Traversing Mechanism
21. Seat Bracket
22. Turret Seat
23. Coil Spring
24. Hull Ammo Stowage
25. Fire Extinguisher
26. Steering Wheel
27. Protectoscope
28. Direct Vision Slot
29. Hatch Cover
30. Instrument Panel
31. Hand Brake Lever
32. Head Light
33. Light Socket Plug
34. Clutch Master Cylinder
35. Brake Master Cylinder
36. Priming Pump
37. Clutch Pedal
38. Brake Pedal
39. Roller Shaft Housing
40. Throttle Control Fluid Reservoir
41. Throttle
42. Pitman Arm
43. Drag Link
44. Front Axle
45. Shock Absorber
46. Front Spring
47. Guard
48. Driver's Seat
49. Gear Shift Lever
50. Gear Ratio Selecting Lever
51. Axle Engage Lever
52. Propeller Shaft
53. Hand Brake Drum
54. Transfer Case
55. Right Sponson Radio Equipment
56. 37mm Gun Firing Pedal
57. . 30-cal. MG Firing Pedal
58. Intermediate Axle
59. Pillow Block
60. Shock Absorber
61. Transmission
62. Propeller Shaft
63. Rear Spring
64. Torque Rod
65. Rear Axle
66. Shock Absorber
67. Fuel Tank
68. Fuel Filler Cap
69. Battery
70. Generator Regulator
71. Generator Shunt Box

SPECIFICATION

Crew: four (commander/loader, gunner, driver, co-driver)
Combat weight: 8.7 tons
Power-to-weight ratio: 12.6hp/T
Overall length: 16 ft 5in.
Width: 8 ft 4in.
Height: 7 ft 4in.
Engine: Hercules JXD in-line 6-cylinder 110hp at 3,000rpm
Transmission: Warner Gear Co. selective sliding gear, five speed (4F, 1R)
Fuel capacity: 56 gallons
Max. speed (road): 55mph
Max. speed (cross-country): 20mph
Max. range: 350 miles
Fuel consumption: 6.2 miles per gallon
Ground clearance: 12in.
Armament: 37mm M6 gun in M23A1 combination mount with co-axial M1919A4 .30-cal. machine gun
Main gun Ammunition: 80 rounds of M74 armor-piercing, M51 armor-piercing-capped, M63 high explosive, M2 canister (60% HE, 30% AP, 10% canister)
Muzzle velocity: 2,900ft/sec (M51 APC)
Penetration: (M51 APC; homogenous/face hardened armor @ 30 degrees) 53/45mm at 500 yards; 45/41mm at 1,000 yards
Max. effective range: 12,850 yards
Gun depression/elevation: -10 to + 20 degrees
Armor: 19mm turret front, sides and rear; 16mm hull upper front/19mm hull lower front; 9mm hull sides

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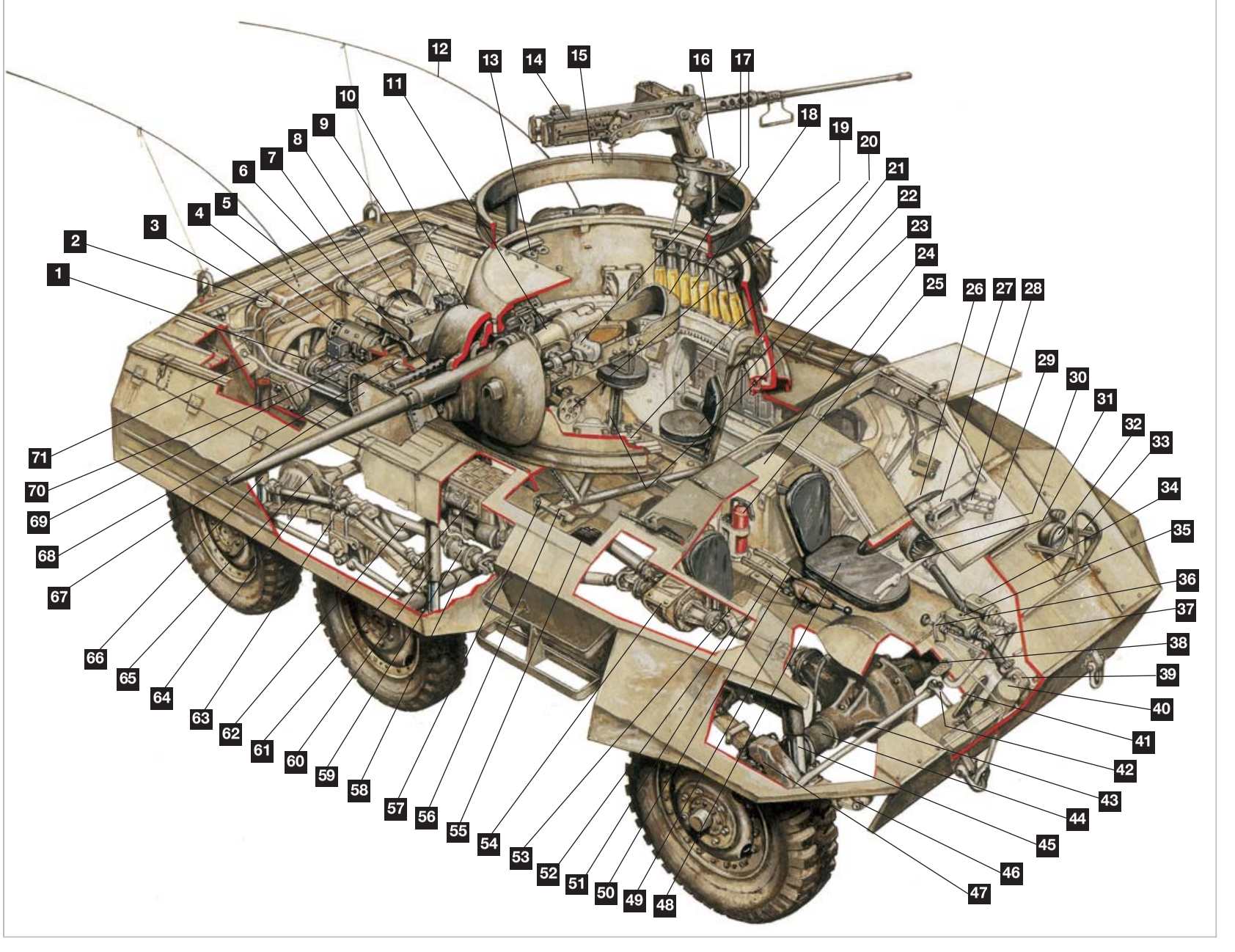

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E: M20 Armored Car, 2e Regiment des Dragons, French First Army, Alsace, 1944

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F1: M8 Greyhound, 1st Derbyshire Yeomanry, 6th Armoured Division, Austria, 1945

F2: M8 armored car, 42nd Constabulary Squadron, 2nd Constabulary Regiment, Occupied Germany, May 1948

F3: M8 TOW Missile Tank destroyer, Colombian Army, 1995

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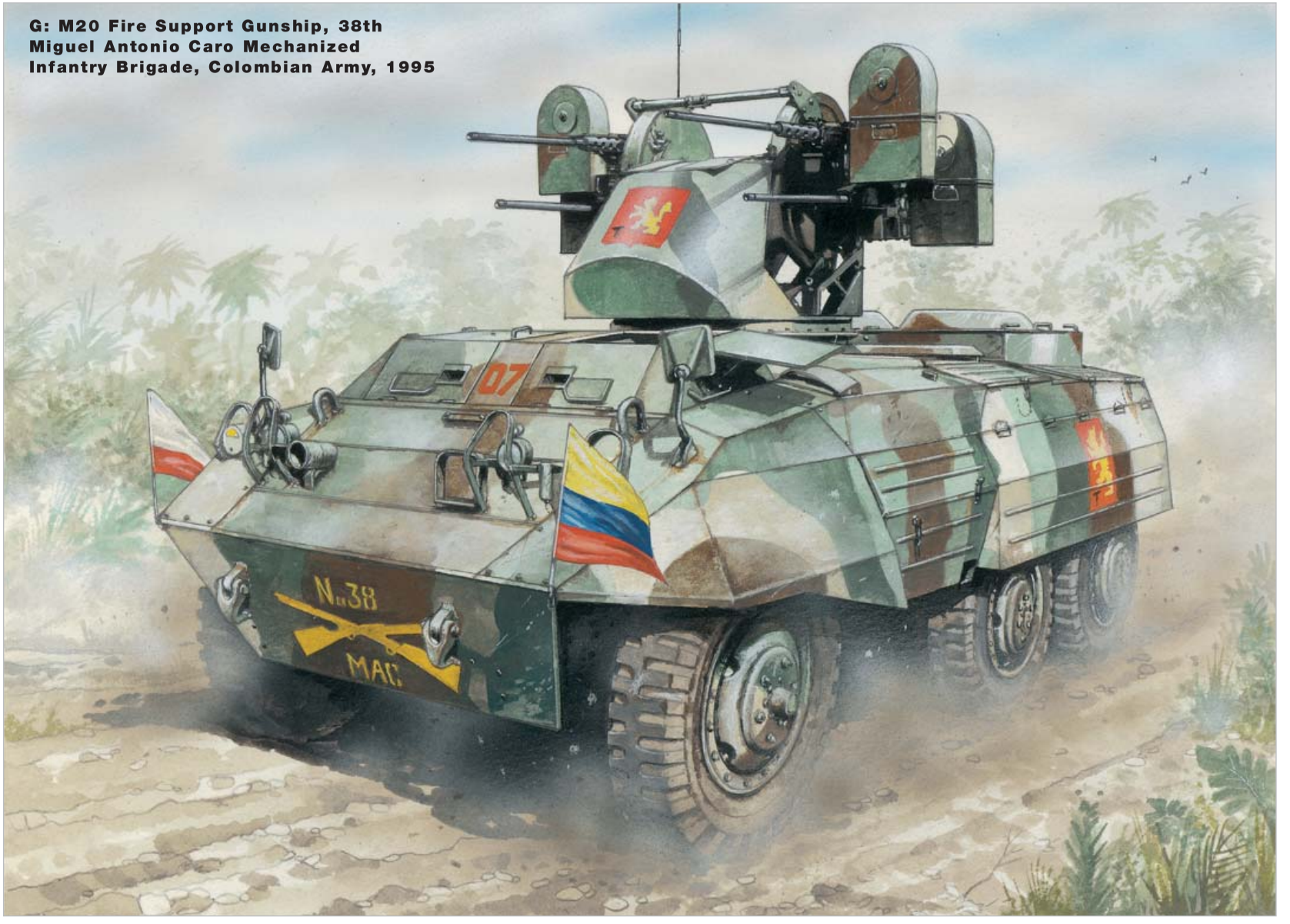

G: M20 Fire Support Gunship, 38th Miguel Antonio Caro Mechanized Infantry Brigade, Colombian Army, 1995

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company, and a field artillery battery to take the town. The Panthers and M8 Greyhounds soon became involved in some one-sided encounters in the narrow streets of the town. In at least one instance, two M8s were trapped in a street and tried to slug it out with a Panther by firing on its tracks and view slits, with predictably unpleasant results for the light armored cars. The Panthers proved of little use in the confined street fighting, but the artillery battery was instrumental in pounding the US cavalrymen. The surviving troops pulled back into a school house in the center of town, but were assaulted by the German engineer teams with demolition charges. A German account of the battle recalled that "despite valiant resistance, the US 117th Reconnaissance Squadron suffered heavy casualties and was driven out of Montreval during the afternoon." The squadron lost more than half its strength in a few hours of intense fighting, including 280 killed and 126 prisoners, 24 M8 and M20 armored cars, three tanks, three half-tracks, 37 jeeps, and 27 other vehicles.

The rapid advance across France in the late summer of 1944 was a dramatic change from the Normandy fighting, and the cavalry reconnaissance squadron missions changed accordingly. During the late summer fighting, the most common mission for the squadrons was security, including flank security and screening missions. The fast-paced offensive led to much more intense use of the cavalry squadrons as is evident from the casualty figures. While only 47 M8 armored cars were lost from D-Day until 20 July, 264 were lost from the start of Operation Cobra until 20 September 1944, a loss rate almost six times as high.

As the US Army reached the German frontier and the Siegfried Line, its logistics lines became overextended and the pace of the fighting slowed, with operations shifting to the defensive. Instead of being used in mobile operations, the cavalry now found itself being used for defensive operations and patrols as the US infantry divisions took part in some hard-fought battles along the Westwall. Defensive operations represented most of the squadron's missions with hardly any reconnaissance assignments. These defensive operations were typically conducted by the cavalrymen from dismounted positions, with the M8 armored cars kept behind the main line of resistance, and brought forward for fire support when needed. Indeed, through the war, cavalry reconnaissance squadrons fought dismounted nearly twice as often as fighting mounted. The weather conditions in October–December 1944 did not favor the M8 armored car. The autumn was unusually

A pair of M8 armored cars of Company C, 82nd Recon Bn., 2nd Armored Division pass through the road junction at St. Sever Calvados on August 3 1944 during Operation Cobra. They have a machine gun ring field mount so commonly seen in Normandy. This unit welded .50-cal. ammunition boxes to the mount, including one box on top of the gun mantlet. The vehicle to the rear, C-32, is from the July 1943 production run. (NARA)

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wet, leading to muddy conditions in many sectors. The M8, like all wheeled vehicles, had much higher ground pressure than tracked vehicles and was much more apt to become bogged down if used off-road.

US ARMY ARMORED CAR STRENGTH AND LOSSES IN THE ETO, 1944–45

Month*	M8 Strength	M8 Losses	M20 Strength	M20 Losses
June	1,463	16	457	0
July	1,562	31	472	3
August	1,580	119	541	2
September	1,490	145	544	13
October	1,651	27	671	48
November	1,984	17	1,015	3
December	2,272	87	958	277
January	2,265	200	1,037	18
February	2,442	30	1,127	25
March	2,884	42	1,139	12
April	2,595	135	1,418	25
May	2,529	112	1,445	20

*Data as of the 20th of each month

The intensity of the fighting again quickened in mid-December when Germany launched the Ardennes offensive. Sadly, it was a cavalry unit that was at the center of one of the most ignominious US defeats during the campaign. The First Army had not expected an offensive in this hilly and wooded sector, and was weakly defending the area with green or battered units. In the northern sector between the 99th Division and the 106th Division, the 14th Cavalry Group was positioned to cover the Losheim Gap. The sector was far too long to be adequately defended by a pair of cavalry squadrons, and the German 6.Panzer Armee struck this area with its heaviest concentration of armor. The German panzer units brushed aside the 14th Cavalry Group and encircled two of the three regiments of the 106th Division near St. Vith, forcing their surrender.

The cavalry squadrons were not well suited to the type of fighting that ensued during the Battle of the Bulge. Once the snow began to fall around Christmas, the M8 armored cars and the cavalry bantams had a difficult time moving along icy roads, and could hardly move at all cross country. The squadrons

Not all cavalry units adopted the .50-cal. machine gun mount during the Normandy campaign. Here, a patrol from the HQ troop of the 42nd CRSM with the 2nd Cavalry Group receives a warm welcome in Brehal on the northern approaches to Avranches on August 2 1944. Popularly called "Patton's Ghosts", this unit served with the Third Army during the Normandy and Brittany campaigns. This vehicle is from the November 1943 production run. (NARA)

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An M8 armored car from C Troop, 113th CRSM, 113th Cavalry Group conducts a patrol in the Netherlands on September 2 1944. The vehicle commander is manning the .50-cal. heavy machine gun. (NARA)

MECHANIZED CAVALRY GROUP OPERATIONS IN THE ETO BY MISSION, 1944-45*

	Offense	Defense	Reconnaissance	Security	Special Operations
Normandy (6-7/44)	6.5	0	5.0	17.3	71.2
N. France (7-9/44)	8.6	9.0	8.8	44.8	28.8
Rhineland (10-12/44)	7.8	55.4	1.7	13.6	21.5
Ardennes (12/45-1/45)	12.1	38.6	0	11.6	37.7
Germany (2-5/45)	15.8	5.7	2.9	40.7	34.9

*(by percent)

were forced to fight dismounted, exacerbating their weaknesses. Although they had considerably more firepower than an infantry battalion when mounted, they had far less when dismounted, since much of their firepower took the form of the machine guns on the bantams and armored cars. In addition, the standard side arm in the squadrons was the M1 carbine instead of the infantry's M1 Garand rifle, and it had neither the range nor impact of the rifle in dismounted infantry fighting. Recognizing their limitations in such fighting, the field commanders tended to use the squadrons for security and special assignments, which made up about half the missions, while defensive operations constituted the rest.

Maj. Gen. I. D. White of the 2nd Armored Division remarked, "Our present reconnaissance troop does not lend itself to dismounted action. The bulk of the troop is composed of crewmen and there is little time to train them as riflemen for dismounted combat. The (M8) armored car is a fairly good means of transportation on favorable terrain until aimed fire is brought against it. It then had little value as a vehicle to support dismounted action." Maj. Gen. Frank Keating of the 102nd Infantry Division noted that, "The present type of (M8 armored cars) cannot be

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ABOVE **The cavalry's darkest hour in the Ardennes campaign was the rout of the 14th Cavalry Group in the Losheim Gap. During the fighting on 18 December 1944, Kampfgruppe Hansen of the 1.SS-Panzer Division overwhelmed a column that included these M8 armored cars of C Troop, 18th Cavalry Reconnaissance Squadron near the Poteau–Recht crossroads. (NARA)**

employed against modern defenses, nor are they expected to. Nevertheless, their road-bound qualities and limited turn-around makes them totally unsuitable and (in need for) … further improvements."

After the US Army shifted to the offensive in January 1945, the cavalry's missions changed again. The deep snow covering most of Belgium and the German frontier area meant that cavalry squadrons still had difficulties operating their vehicles in the final weeks of January and in early February 1945. This is clear from the rather modest casualty figures for M8s lost in February and March in spite of the overall intensity of fighting along the German frontier. At this stage, the cavalry more often than not was fighting dismounted. As the snow gradually melted, the cavalry reverted to its traditional role of providing mounted flank security and screening missions. These amounted to almost half of their missions until the end of the war. Offensive missions rose, but reconnaissance assignments remained a minor activity. The cavalry proved to be especially valuable in the final two months of fighting as the US Army conducted deep operations through the crumbling German defenses. Losses of M8 armored cars again rose, but this was indicative of their greater use by the cavalry squadrons.

With continuing firepower problems, particularly when facing German panzers and entrenched antitank guns, the cavalry squadrons were given priority for receiving the new M24 light tank for their "F" companies to replace the obsolete M5A1 light tank. There was no replacement

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One of the main drawbacks of the M20 as a command car was the cramped conditions in the rear bay and its exposure to the elements. Some units fabricated their own canvas covers to make the M20 more functional in winter conditions. These are a group of M20s of the 827th Tank Destroyer Battalion in Saarbourg on December 16 1944. The 827th was one of a number of segregated US armor units that fought in the ETO in 1944–45. (NARA)

available for the M8 armored car. After the disappointing experience of trying to use M8 armored cars in snow and deep mud, some of the units wanted to keep the M5A1 light tanks as a substitute, since their tracked suspension gave them better mobility. Other units, such as the 14th Armored Division, wanted to keep the M5A1 tanks, but remove the turrets much like the experimental T8 and T8E1, and the British Recce Stuarts. The commander of the 9th Armored Division, Maj. Gen. John Leonard, simply wanted to replace the M8 armored cars with M24 light tanks until a more suitable armored car became available. Ordnance had little enthusiasm for the type as shown by their overview at the end of the war: "The armored cars M8 and M20 had varied acceptance in this theater. However, on the whole, using organizations were not satisfied with the performance of these vehicles as they felt they were underpowered, lacked maneuverability, sufficient flotation for cross-country operation, and sufficient armored protection. These vehicles were not reliable, resulting in excessive quantities deadlined in maintenance shops for repair."

Not all commanders were so critical of the M8 armored car. The commander of the 106th Cavalry Group, Col. Vennard Wilson, commented, "Contrary to many, I have a great deal of respect for and appreciation of the capabilities of the armored car M8. It is far from ideal, yet it has performed a great service for us. The soldiers themselves like it. Perhaps my appreciation of the armored car is due to my method of fighting. I invariably fought the reinforced troop, in which the armored cars acted as the reconnaissance agency of the troop, with the punch coming from the (light) tanks, assault guns, and one completely dismounted platoon. I can readily understand how those who depended on the M8 armored car to carry the burden of the fight felt the inadequacy of its fire power and its lack of cross-country mobility … The choice of the vehicle depends upon operating conditions. When I held 115 miles of open flank of (Patton's) Third Army with a need for constant patrolling, the M8 armored car was undoubtedly superior. In the Foret de Parroy [during the Lorraine tank battles in September 1944] I would have gladly traded all my armored cars for light tanks."

OPPOSITE **An M8 armored car of the 17th Cavalry Group, supporting the Ninth Army, passes the wreck of a German StuG III assault gun from the 3rd Panzer Grenadier Division in Kinzweiller, Germany, on November 21 1944. The town was taken on November 19 by the 117th Infantry Regiment, heavily supported by armor. (NARA)**

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Both the M8 and M20 armored cars saw use in the Pacific Theater of Operations (PTO), but in very small numbers. The terrain on most of the islands did not favor the use of cavalry reconnaissance troops. They were deployed with the few tank destroyer battalions sent to the PTO. Some were used in the fighting in the Philippines in 1944–45, and again on Okinawa. Neither type was used by the US Marine Corps.

This M8 armored car of the 4th CRSM, 4th Cavalry Group shows the wear and tear of the fighting in the Ardennes while operating near Borzee, Belgium, on January 16 1945. Its wheels have been fitted with snow chains and its side skirts removed to prevent the buildup of frozen slush and mud. The vehicle has been given a hasty winter camouflage scheme of lime whitewash. (NARA)

THE M8 IN LEND-LEASE SERVICE

The M8 armored car was not widely supplied through Lend-Lease. Britain originally declined to order any in 1942, since there was already an adequate supply of light armored cars from domestic sources. This policy changed in mid-1943, and two agreements were signed for 5,000 vehicles. In fact, only 496 were delivered, the first two in 1943, 454 in 1944 and 40 in 1945. The type was uncommon in Northwest Europe, with only six in service at the end of the war, half of these with the Canadians. They were used in larger numbers in Italy. At the end of the war, there were 99 on hand with the 6th Armoured Division, 79 with the 7th Armoured Brigade, and small numbers with other units including the Polish Carpathian Lancers. Canada received two M8 armored cars for evaluation. The British army sometimes referred to the M8 as the "Greyhound" in keeping with the naming tradition of earlier Lend-Lease armored cars such as "Staghound" (T17) and "Boarhound" (T18), but this name was not common.

The largest user of the M8 and M20 (aside from the US Army) was France. The French Army was reequipped by the United States along US tables of organization and equipment, so the deployment pattern was similar. The French used the M8 and M20 in cavalry squadrons, and in various types of reconnaissance units attached to tank destroyer and infantry formations. The Free French forces received 288 M8 armored cars and 45 M20 armored utility cars through July 1945, and by the end of 1945, this total had risen to 689 M8s and 205 M20s.

The only other country to obtain the M8 through Lend-Lease channels was Brazil, which received five in 1943 and 15 in 1944. These served in a reconnaissance troop with the Brazilian 1st Infantry Expeditionary Division when the unit deployed to Italy in 1944. They were used extensively in the winter of 1944, and in the fighting in the Po Valley in 1945. Captured M8 armored cars were used in modest numbers by the German Army during the war, though not in any organized fashion. Captured vehicles were usually given a quick set of German markings and used until they broke down.

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POSTWAR M8 ARMORED CAR USE

As early as 1942, the Palmer Board recognized that the M8 was not the ideal cavalry reconnaissance vehicle. As a result, in 1943 development began of a new armored car intended to replace the M8. Two competitive pilots were built, the Studebaker T27 and the Chevrolet T28. Both types were finished in the fall of 1943 and completed their engineering trials at Aberdeen in the summer of 1944. The T27 was not as mobile as the T28, although both vehicles were substantially superior to the M8 in cross-country performance. Tests by the Cavalry Board at Ft. Riley in May 1944 confirmed the advantages of the T28 armored car and recommended its selection. It was standardized as the Light Armored Car M38 in December 1944. In spite of this, no serial production ensued, as by 1945 there was no need foreseen for additional armored car production.

As a result, the M8 light armored car and the M20 armored utility car continued in US Army service after World War II. The M8 was declared limited standard after the acceptance of the M38, though this change was of no consequence. The M20 was classified as standard through the Korean War. It was widely used by the US Army in Europe after the war for occupation duty with the US Constabulary force, and it proved well suited to their tasks. The Constabulary was patterned after the wartime cavalry reconnaissance squadrons. A total of 27 squadrons were organized, formed into ten regiments and three brigades. Each squadron had five mechanized troops and one HQ troop, each troop equipped with three jeeps and one M8 armored car. There was also a troop of M24 light tanks attached at regimental level. These units were used as motorized police and for border patrol missions. As German police units began to take over their responsibilities, they were gradually reorganized as armored cavalry units or disbanded, and the last unit retired in December 1952.

An M20 armored utility car of the 807th Tank Destroyer Battalion receives a coat of whitewash during a maintenance break in the town of Saalautern on January 13 1945. It has been fitted with snow chains to provide better traction in the winter conditions. (NARA)

M8 and M20 armored cars were also used for occupation duty in the Pacific, including both Japan and Korea. The US was reluctant to arm the new Republic of Korea (ROK) Army with tanks for fear it would encourage the Syngman Rhee government to invade the north. So its only armored strength on the eve of the Korean War consisted of 37 M8 armored cars attached to the cavalry regiment of the 1st Capitol Division in Seoul, and delivered in October 1949. At the time of the outbreak of the Korean War in the

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summer of 1950, the M8 and M20 were still in use in the US Army reconnaissance companies in the infantry divisions, and in a variety of other units. After World War II, the cavalry squadrons and groups were reorganized into armored cavalry regiments, and there were five of these by 1951. However, none were deployed in Korea. As a result, the number of armored cars deployed in Korea by the US Army was modest.

The most extensive combat use of the M8 armored car in the postwar years aside from Korea was with French forces in Indochina from 1946 to 1953. The first significant unit with M8 armored cars was the 1er Regiment de Marche de Spahis Marocains, the reconnaissance element of Groupement Massu of the French 2nd Armored Division which arrived in October 1945 to re-establish French colonial control. This unit was followed by a number of other cavalry and reconnaissance units. In 1951, the diverse scout units were reorganized as reconnaissance groups (GER: Groupes d'escadrons de Reconnaissance) which like the wartime cavalry reconnaissance squadrons were mixed light tank/armored car formations. The M8 was used for a variety of patrol and scouting functions, mainly along roads since its wheeled configuration did not lend itself to cross-country travel in a tropical country. The M8 armored cars were also used by the Prévôte Militaire (military police) in urban areas. The US provided a further 347 M8 and M20 armored cars to French forces in Indochina through 1954. Following the armistice, some were left behind with the Army of the Republic of Vietnam (ARVN), where they formed four armored cavalry squadrons on the French pattern in 1952. These were used in combat during the Vietnam War in the 1960s, reinforced with further US supplies. France formed two other light armor units in Indochina at the same time, in Cambodia and Laos. France used its M8 armored cars in other colonial conflicts in the 1950s, notably in Algeria.

The M20 armored utility car was widely used by senior commanders in the summer and fall of 1944 before its vices became evident. This is the vehicle of Maj. Gen. "Lightning Joe" Collins, commander of the VII Corps which led the Normandy breakout during Operation Cobra. Here, he is checking his map in the Belgian town of Beaumont on September 4 1944. (NARA)

The US Army's general dissatisfaction with the M8 armored car during World War II led to its retirement after the Korean War. The army generally favored the use of fully tracked vehicles, and retired its half-tracks and armored cars. Some remained in service with National Guard units for a few more years. While some of the retired vehicles were later provided as military aid overseas, small numbers of M8 and M20 armored cars were turned over to local police departments. These were used by some state police special units well into the 1990s.

Even though the postwar career of the M8 in US service was lackluster, it became a staple export item. A significant number of M8 and M20 armored cars were given to most of the European countries which formed NATO. It was an ideal vehicle for the new postwar armies since it was easy to maintain and easy to operate. They were delivered to Belgium, Norway, Germany, Italy, Portugal, Greece, and Turkey. In addition they were also provided through the Military Assistance

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ABOVE **A number of the 14th Cavalry Group M8 armored cars were abandoned intact, and put back into use by German troops during the fighting around St. Vith during the Battle of the Bulge. This one, named Buffalo Bill, was later knocked out by US artillery. Its stars had been crudely overpainted with German crosses. (NARA)**

The M8 was still in service when the Korean War broke out in the summer of 1950. Cavalry units were not deployed to Korea because of the rugged terrain, but M8 armored cars were used by divisional reconnaissance units like this one near Taegu on July 22 1950. By this stage, the folding pintle mount had become more widely available and was a standard feature in Korea. This photo emphasizes how awkward the mount was to use compared to the ring mount when firing forward. This particular folding pintle mount is a non-standard retrofit, and the vehicle is from the March 1944 production run before the mount was approved. On production vehicles, the socket for the mount was attached centrally on the access panel at the rear of the turret, not offset to the right as seen on this armored car. (NARA)

Program (MAP) to neutral European countries such as Austria and Yugoslavia. These vehicles remained in service through the 1950s, after which most were retired as more modern, locally developed armored cars became available. In some cases, they were turned over to paramilitary forces such as border police and gendarmeries. For example, some of the German M8 armored cars were given to the Grenzschutze border police where they were modified by removing the 37mm gun. In Belgium, they were used mainly by the Air Force's Defense Units for airfield patrols.

A large number were delivered in the 1950s and 1960s to countries in the developing world in Latin America, Asia, and Africa. They were well suited to these small armies since they were much less expensive and simpler to operate than tracked vehicles. Recipients in the Americas included Colombia, El Salvador, Guatemala, Haiti, Jamaica, Mexico, Peru, and Venezuela in addition to more vehicles to Brazil. Other US shipments went to Ethiopia, Iran, Morocco, Saudi Arabia, South Korea, Taiwan, Thailand, and Tunisia. From 1952 to 1972, the US supplied slightly less than 500 M8 and M20 armored cars to various allied countries.

The French Army continued to use the M8 into the 1950s, gradually replacing them with the Panhard EBR in the reconnaissance role from 1956. Some of the vehicles were retired to the Gendarmerie. With a large number available, France became a significant

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second-hand supplier of M8 and M20 armored cars during the decolonialization of Africa in the early 1960s, suppling small numbers of M8 and M20 armored cars to former colonies such as Algeria, Benin, Cameroon, Dahomey, Malagasy, Morocco, Niger, Senegal, Togo, and Upper Volta. A similar pattern, though on a much smaller scale, was followed by Belgium. When Belgium withdrew from the Congo, the M8 armored cars used by the Congolese Force Publique were turned over to the new Congo Army. Greece, which had received 207 armored cars, also supplied M8 armored cars to Cyprus. As a result of these transfers, M8 and M20 armored cars have been involved in numerous conflicts, coups d'état and other military actions in the later half of the 20th century. During the fighting in the Congo in the 1960s, M8 armored cars were used both by the Congolese rebels and international peacekeeping forces.

The large number of aging M8 and M20 armored cars still in service in the late 1960s encouraged commercial firms to offer upgrade kits. The US company NAPCO offered a powerplant upgrade which involved the substitution of the Detroit Diesel 4V-53N engine and Allison AT-545 transmission as well as other upgrades. These upgrade packages were sold to several countries including Cameroon, Cyprus, Ethiopia, El Salvador, Guatemala, Haiti, Jamaica, Morocco, Venezuela, and Zaire. By this time, the 37mm gun on the M8 was obsolete, so NAPCO offered another kit in which the 37mm gun was removed and replaced with a .50-cal. heavy machine gun, and a BGM-71 TOW antitank missile launcher was added on the ring mount over the turret. A number of these kits were sold to Colombia. France tried to interest its clients in similar upgrades, and in 1971 EFAB displayed an M8/M20 upgrade which substituted the H-90 turret used on the AML-90 armored car. This turret was equipped with a 90mm gun, substantially increasing the firepower of the old armored cars. However, there were no clients for this conversion. Brazil's army engineer institute, IME, designed an upgraded M8 called the CRR Brasileiro, which substituted a Mercedes-Benz OM-321 engine, and changed the suspension to a 4x4 configuration by deleting the middle axle. However, the commercial firm Engesa developed a new armored car heavily influenced by the M8 called the CBR MB-1 Cascavel-37, which was selected instead. This was the forerunner of the famous Cascavel series of armored cars of the 1970s.

The M8 armored car was not widely used in the Pacific theater, though some did see combat in 1944 and 1945, mainly in the Philippines and on Okinawa. This M8 is operating in the Lebrenan Hill area of Leyte in the Philippines on October 22 1944. (NARA)

While the numbers of M8s and M20s in military

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The M8 armored car was widely distributed by the US as foreign military aid in the late 1940s and early 1950s. Although most recipients were NATO allies, neutral European countries like Austria and Yugoslavia also received vehicles, with Yugoslavia receiving 165. These particular Yugoslav M8s are part of a contingent being prepared in Belgrade in November 1956 for deployment with the United Nations Emergency Force to monitor the truce between Egypt and Israel after the 1956 war. (UN)

service are dwindling rapidly due to age, there are still a significant number in operation with military vehicle collectors. Their wheeled configuration makes them attractive to collectors since they can legally be operated on roads in many countries, and they are less expensive to repair and maintain than tracked vehicles. It would not be surprising to see some still in operating condition a century after their original manufacture.

BIBLIOGRAPHY

No detailed books have been published on the M8 and M20 armored cars until this one, so this account was based on official records. Some treatment of the M8 and M20 is available in survey accounts of US armored cars in World War II such as Peter Chamberlain and Chris Ellis' "American Armoured Cars 1940-45" (Almark 1969) and Jim Mesko's "US Armored Cars in Action" (Squadron 1998). There are two official histories of US armored car development prepared by Ordnance and the Tank-Automotive Center immediately after World War II, though neither were published. Like most of the records mentioned here, they were located in the US National Archives at College Park, Maryland. Other useful records were the wartime reports of the Cavalry Board, Tank Destroyer Board, Armored Forces Board, Ordnance, and the Requirements Division of the Army Ground Forces headquarters. Additional details on development of these armored cars were found in the Ordnance Committee Meetings (OCM) reports, a collection of which is held at the Military History Institute (MHI) at the US Army War College at Carlisle Barracks, Pennsylvania. Production data on the M8 came from various Army Service Forces records. Data on field modifications of the M8 and on the performance of these vehicles in combat came from reports by the Observer Board, Army Ground Forces, and the AFV & Weapons sections of various US Army combat formation headquarters.

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COLOR PLATE COMMENTARY

The largest user of the M8 armored car aside from the United States was France. These M8 armored cars belong to the 1er Regiment Etrangère de Cavalerie (1er REC), the cavalry regiment of the French Foreign Legion. The regiment was reequipped with US vehicles after the Tunisian campaign, and fought in Alsace in 1944–45. (NARA)

A: M8 ARMORED CAR, A TROOP, 91ST CAV. RECON. SDN. (MECZ), US FIFTH ARMY, CASSINO, ITALY, FEBRUARY 1944.
Like all US armored vehicles in World War II, the M8 armored car was finished in lusterless olive drab. One of the most common camouflage schemes was black over olive drab as shown here. The circled white star on the hull side was a form of Allied recognition adopted at the time of the Sicily invasion in 1943, and was probably on the turret as well. This insignia, in larger form, was carried on the engine deck, too. In a number of Fifth Army units, the unit identification codes were painted on a white rectangle for greater clarity. In this case they are 5A 91R A49, indicating Fifth Army, 91st CRSM, A Troop. The vehicle name, Argonaught, follows the usual pattern of beginning with the troop letter. This vehicle also carries the usual bridging weight circle, a black 9 on a yellow circle. Curiously enough, the vehicles in this squadron carried their traditional insignia, a gold and black shield with a horseshoe in the lower right symbolizing their cavalry roots, and a wheel in the upper left, symbolizing their mechanized affiliation. This particular vehicle has a non-standard .50-cal. heavy machine gun pintle mount.

B1: M8 ARMORED CAR, RECONNAISSANCE TROOP, 1ST BRAZILIAN EXPEDITIONARY FORCE, ITALY, 1944.
The Brazilian FEB was primarily an infantry organization, but had a reconnaissance troop attached to it during the fighting in Italy. They were painted in the usual US Army olive drab. The vehicles usually carried the national insignia of a white circle with stars on the center of the glacis plate, on both sides of the hull lower sponson plate, and on the left rear fender. Most vehicles had names, often of Brazilian towns or regions as here, which were carried on the hull sides and on the lower edge of the glacis plate. During operations in Italy, some Italians chalked "Viva Brasil" on the hull side of this particular armored car.

B2: M8 ARMORED CAR, CO. C, 82ND ARMD. RECON. BN., 2ND ARMD. DIV., OPERATION COBRA, JULY–AUGUST 1944.
The US First Army instituted a program to camouflage paint their armored vehicles with a pattern of black over the usual olive drab in the days prior to the beginning of Operation Cobra on July 24 1944. The 2nd Armored Division usually painted the vehicle radio call numbers on the turret of tanks, and on the hull sides of armored cars and half-tracks, as seen here. The vehicle names usually started with the company letter, in this case, Conan. The vehicle registration number is in white and indicates that this vehicle was from the July 1943 production run.

C: M8 ARMORED CAR, 1E ESCADRON, REGIMENT BLINDE DE FUSILIERS MARINE, 2E DIVISION BLINDE, FRANCE JULY 1944.
As in US tank destroyer units, Free French armored units had a complement of M8 armored cars. The RBFM (Armored Regiment of Naval Riflemen) was the tank destroyer battalion

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ABOVE **A number of Allied armies also used the M8 armored car during the Italian campaign. Perhaps the least known was the 1st Brazilian Expeditionary Force, which had a reconnaissance troop of M8 armored cars attached to its 1st Division. It was painted with the Brazilian national insignia, seen here and on the neighboring M3 half-track.**

BELOW **A number of wartime armor and cavalry units were used to form the US Constabulary for occupation duty in Germany after the war. This is an M8 armored car of the 42nd Constabulary Squadron, 2nd Constabulary Regiment near Grafenwohr in May 1948. (NARA)**

of the French 2nd Armored Division and was crewed by sailors from the French fleet. This vehicle was commanded by Ensign Chavanne and because of the naval background, vehicles tended to be named after French warships. The vehicle is in the usual US olive drab with large Allied stars. The 2nd Armored Division used a map of France in white on a blue disk superimposed with the cross of Lorraine as seen on the rear fender. There is also a flash in the national colors behind this. The unit had a system of small tactical insignia with each battalion assigned a letter painted in yellow on a blue square. Around this there was a painted line indicating the squadron, and one or more dashes indicating the section, in this case the armored car platoon. On the bow is the usual Allied yellow bridging circle, and a white shipping code (49879). This particular vehicle had the French Army matricule (registration number) of 90538 painted centrally on the lower bow panel in white, preceded by the French tricolor. See Plate E for typical details.

D: M8 ARMORED CAR CROSS-SECTION
(see plate for full details)

E: M20 ARMORED CAR, 2E REGIMENT DES DRAGONS, FRENCH FIRST ARMY, ALSACE, 1944.
The 2e Dragons was a tank destroyer battalion assigned to the French First Army, which landed in southern France in August 1944 and fought with the US Sixth Army Group. The First Army had very different markings from the French 2nd Armored Division, which landed in Normandy and fought with the US Twelfth Army Group. Most vehicles carried

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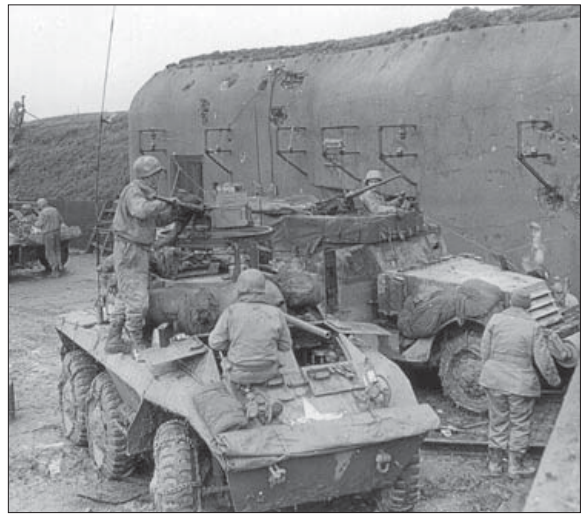
national colors in the form of the Napoleonic 1804 flag seen on the side fender. As with 2nd Armored Division, units used a letter on a colored square as their tactical insignia. In this case, it is a black D on a white square. There is no squadron bar, as this vehicle was attached to the headquarters section. This vehicle was named Passy, while the other two M20 armored cars in the section were Montmartre and Paris-Pontsampere-Auch. The number on the side above the front fender, MF44515C, is a shipping code. On the front, the vehicle carries the French registration number in the standard fashion on a black rectangle preceded by the tricolor. The marking below the registration number is a color-coded version of the shipping code in gray and tan. This was also painted on other items such as crew duffel bags. The insignia are all repeated on the rear of the vehicle, as well as the maximum speed warning of 40mph.

F1: M8 GREYHOUND, 1ST DERBYSHIRE YEOMANRY, 6TH ARMOURED DIVISION, AUSTRIA, 1945.

Following the fighting in Italy, the British 6th Armoured Division fought its way into Austria through the Alpine passes. Most American Lend-Lease vehicles were painted in US olive drab, or the British equivalent, Shade No. 15 olive drab. These are the markings carried on the vehicle shortly after the war ended during the period of occupation duty, and so are somewhat neater and more conspicuous and decorative than the likely wartime markings. They include the divisional insignia, an armored fist on a black square, the national insignia, the RAC flash, and the squadron insignia, a rhomboid, in white on a black square. British Greyhounds were allotted registration numbers in the F 278083 to F 278134 and F 315959 to F 316402 range and these were usually painted in white on the hull side in much the same location as the US registration numbers.

ABOVE **The crew of M8 "Conquistador" of Company C, 81st Armored Reconnaissance Battalion, 1st Armored Division, in Norma, Italy, following the breakout from the Anzio beachhead on May 30 1944. This unit was redesignated as the 81st CRSM when the 1st Armored Division adopted the "light" 1943 table of organization in 1944. (NARA)**

BELOW **An M8 armored car troop from the 92nd CRSM, 12th Armored Division, uses an abandoned fortress from the Maginot line near Guising, France, for a bivouac on 13 December 1944. Half-tracks, like the M3A1 here, were used in the squadron's maintenance and supply sections. (NARA)**



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F2. M8 ARMORED CAR, 42ND CONSTABULARY SQUADRON, 2ND CONSTABULARY REGIMENT, OCCUPIED GERMANY, MAY 1948.
The US Constabulary, which served on occupation duty, had conspicuous markings, as one would expect from a police force. The Constabulary colors were yellow and blue, and were used both as trim colors and for the Constabulary insignia. The unit bumper codes were painted on the low bow plate on a yellow rectangle, the markings on the left, D 21, identify this vehicle as belonging to D Troop.

F3. M8 TOW MISSILE TANK DESTROYER, COLOMBIAN ARMY, 1995.
A number of Colombian M8 armored cars were rebuilt by NAPCO in the late 1980s and early 1990s with a new power pack. Some were also modernized with a TOW missile armament in place of the old 37mm gun. Aside from the TOW missile mount over the turret, a 7.62mm machine gun replaced the 37mm gun, and there is a spare missile round strapped to the back of the turret. The new power pack is evident from the raised engine deck, which was about 6in. higher than the normal deck. The Colombian Army painted their armored vehicles in a pattern reminiscent of the US Army MERDC scheme of the same period, consisting of forest green, with bands of sand, dark brown, and black.

G: M20 FIRE SUPPORT GUNSHIP, 38TH MIGUEL ANTONIO CARO MECHANIZED INFANTRY BRIGADE, COLOMBIAN ARMY, 1995
The Colombian army converted some of its obsolete M20 armored cars into gunships using a Maxson M45 quadruple .50-cal. heavy machine gun mounting. This mounting was usually fitted to a towed trailer, but this conversion gave it greater mobility. Although the Maxson turret was originally intended for antiaircraft defense, it is also a potent weapon when used in the fire support role, which was the intention with the Colombian conversion. This vehicle was also one of those fitted with the NAPCO power pack. The markings are quite colorful, including the Colombian variation of the MERDC-style camouflage scheme, the 38th MAC marking on the bow, the unit insignia on the hull side and turret front, and the vehicle number in red on the panel between the two front hatches. For readers interested in more details of these unusual conversions, the author recommends the article by David Spence on the subject, which appeared in the May 1999 issue of the *Journal of Military Ordnance*.

"Rusty", an M20 of the headquarters of the 6th Cavalry Group, serving with Patton's Third Army in Germany on February 17 1945. The unit has widened the ring mount so that it traverses the whole parapet. They have also added a plastic windshield at the front of the parapet. (NARA)

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